

Michigan Agricultural Statistics 2000-2001



Michigan
Agricultural
Statistics
Service



Michigan
Department of
Agriculture

Michigan Department Of Agriculture 2000 Annual Report

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Michigan Agricultural Statistics 2000-2001

Michigan Agricultural Statistics Service

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August 2001

The Michigan Department of Agriculture, created in 1921, has experienced many changes and made extensive technological advances through the years. We have done this in order to focus on the issues and concerns that are important to consumers, farmers, and others who care about our state's food and agriculture industry, and Michigan's bountiful land and water resources.

The 2000 Michigan Department of Agriculture Annual Report is a record of the year's accomplishments, and an indication of issues that will be important in the future. This annual report, combined with Michigan Agricultural Statistics 2000-2001, details the exciting story of Michigan agriculture, our state's second-largest industry.

In 2000, the department's top priorities were:

- Food safety
- Economic development of Michigan's food and agriculture industry
- Environmental stewardship and protection
- Consumer protection

Throughout the year, the department faced many complex challenges, and realized many successes. From passage of key agriculture-focused legislation, including a comprehensive modernization of Michigan's food safety laws, to the creation and expansion of programs that benefit the industry and the citizens of our state, the goals set by divisions to reflect the department's top priorities were met, and in some cases, surpassed. The ongoing diversity and range of department responsibilities demand a high degree of care and dedication from each employee. I am pleased to say that MDA staff consistently meet this standard, and I am confident the dedicated service they demonstrate will continue for years to come.

The Michigan Department of Agriculture is committed to helping Michigan's agricultural community thrive, ensuring a fair and honest marketplace for Michigan citizens; protecting Michigan's people, animals, farmland and water; and, as always, safeguarding the quality of our food.

I hope you find this summary of the department's 2000 accomplishments informative and valuable. If you have questions or comments, please contact us at 517-373-1104.

Sincerely,

A handwritten signature in black ink that reads "Dan Wyant".

Dan Wyant
Director

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in cooperation with the
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August 2001

The 2000-2001 edition of *Michigan Agricultural Statistics* continues a data series which started in 1886. The ever changing story of agriculture is reflected in each annual publication. This extensive historic data series is now available in electronic form under "MASS Archive" at our State website, <http://www.mda.state.mi.us/mass/>. As current information is released by the USDA National Agricultural Statistics Service for Michigan, it is posted to this website. These data are compiled into the annual bulletin which provides facts about Michigan's agriculture for 2000.

In 2000, Michigan farmers generally had a good production year but with weak prices for many commodities. Field crop prices were particularly soft. Livestock prices were solid to the strong side, especially for beef cattle and calves. Milk prices strengthened after a December low. Other than blueberries, the fruit industry also experienced low prices. Vegetable conditions were mixed with cucumbers and tomatoes showing stronger prices. In contrast to most of Michigan agriculture, the nursery and floriculture industries saw excellent economic conditions. This short summary reflects the wealth of information available to users of this publication.

Having this information establishes a baseline from which to evaluate progress, examine and redesign farm policy, and look at each segment of Michigan's highly diverse agriculture. This report is available because producers and agribusinesses voluntarily completed numerous surveys during 2000. A special thanks to each contributor. In cooperation with the Michigan Department of Agriculture, Michigan Agricultural Statistics Service (MASS) is pleased to provide this publication which serves as the information source for Michigan agriculture.

The MASS staff and our enumerators are committed to meeting your agricultural information needs. Please provide us your comments and suggestions. We depend on you to show "Agriculture Counts."

Sincerely,

David D. Kleweno
State Statistician

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Part I:

Michigan

Department of

Agriculture

Annual Report 2000

ANNUAL REPORT 2000

DIRECTOR'S SUMMARY

The Michigan Department of Agriculture (MDA) is charged with a variety of responsibilities and commitments affecting every person who lives in Michigan, transacts business, or simply travels through the state. The department's annual report highlights its duties and achievements. Each division of MDA strives to accomplish major goals that promote the department's four paramount priorities: food safety, environmental stewardship, consumer protection, and economic profitability for agriculture. This report showcases MDA's key accomplishments in 2000.

The year 2000 was a banner year for agriculture-focused legislation. With one exception, every bill endorsed at the department's request was passed, along with most of the legislation supported by the department. Major initiatives included:

- The comprehensive Michigan Food Law of 2000, which updated and modernized Michigan's food safety laws for the first time in more than 30 years, was passed.
- A plan to help preserve Michigan farmland was established through the creation of an Agriculture Preservation Fund, and a trust fund board. The bill also eliminated the "pop-up" property tax on agricultural land.
- The Farmland and Open Space Preservation Act, commonly known as "PA 116," was amended to enhance the tax credit incentive for program participation. The amendment reduces the financial threshold for receiving tax credits from 7 percent of household income to 3.5 percent.
- Agriculture Renaissance Zones were created, which will allow for the creation or expansion of value-added agricultural opportunities by creating tax-free zones for food processors.
- The Animal Industry Act, which oversees animal health issues, was amended to facilitate implementation of a statewide plan to test cattle, bison, goats and cervidae for bovine tuberculosis in order for the state to regain its tuberculosis-free status. A statewide ban on feeding

deer (a major disease source) was also implemented during the year.

- The Right-to-Farm Act was amended to establish requirements and timelines for responding to complaints. The new act also requires development of Generally Accepted Agriculture and Management Practices (GAAMPs) for Site Selection and Odor Control for New and Expanding Livestock Production Facilities. This new GAAMP will help ensure that animal agriculture facilities are properly sited, based upon an area's population density and environmental conditions.
- The Michigan Groundwater Stewardship Program was extended through 2010 with a unanimous vote by both houses of the Michigan Legislature. The program was originally scheduled to end in 2000, but was extended because of its success in enhancing groundwater protection.
- The State Fair Act was amended to permit the leasing of the Detroit fairgrounds to a private organization. The amendment allows for major capital improvements to occur on the property, and the state to save financial resources.
- A registration program was created and implemented for all privately owned deer and elk in Michigan.

In addition, the following programs or activities had significant impact in 2000.

Conservation Reserve Enhancement Program - CREP was created in conjunction with the U.S. Department of Agriculture and several other state and private conservation organizations. The Michigan Department of Agriculture and USDA signed a program agreement in October 2000. The program, which is now up and running, will assist producers in adopting environmentally sound practices on agricultural lands to improve water quality and enhance wildlife habitat.

Michigan Agriculture Environmental Assurance Program MAEAP assists farmers in developing and implementing comprehensive, economically feasible pollution prevention plans. A partnership agreement, among state and federal agencies and stakeholder groups, was signed in 2000. The

agreement outlines program goals and program partner responsibilities.

Pseudorabies - Michigan attained pseudorabies-free status (Stage V) from USDA during the year, regaining a significant market for the state's swine producers.

Plum Pox Virus (PPV) - An intensive and comprehensive testing program was performed on Michigan stone-fruit trees to ensure that PPV was not present in Michigan after the disease was detected in Pennsylvania. Canadian officials issued a quarantine on all U.S. stone-fruit trees. No PPV was detected in Michigan and the Canadian restrictions have been eased.

Michigan Clean Sweep Program - More than 150,000 pounds of unwanted pesticides were disposed of properly under the Michigan Clean Sweep Program in 2000. More than 2 million pounds of pesticides have been collected and disposed of throughout Michigan since the program was created in 1987.

MDA's seven regional offices play a vital role in providing services to our customers. Located throughout the state, experts are available to offer assistance to the industry and residents quickly and efficiently. In most cases, problems are solved in the field at a regional level, allowing businesses to continue serving their customers effectively in accordance with state laws and regulations.

This summary cannot encompass all the strides made by the department in 2000. Please continue reading this annual report to gain a better understanding of the depth and scope of the duties and achievements of the Michigan Department of Agriculture.

COMMISSION SUMMARY

The Michigan Commission of Agriculture is appointed by the governor to establish policies and provide administrative direction for the Michigan Department of Agriculture. The five commission members are appointed for a four-year term, with the confirmation of the Michigan Senate.

Current board members are:

Douglas E. Darling
James E. Maitland
William G. Pridgeon

Jordan B. Tatter
Nora M. Viau

The commission met in conjunction with, and attended, the following events: Agriculture and Natural Resources Week at Michigan State University (MSU), Ag Expo at MSU, Michigan's Annual Bovine TB Conference, and the Michigan Farm Bureau Annual Meeting. The commission also held a joint meeting with the Natural Resources Commission in March 2000, and met with the leadership of the Michigan Association of Fairs and Events.

Bovine TB was the single biggest issue on the commission agenda in 2000, followed closely by review and enhancement of the state's Generally Accepted Agricultural and Management Practices (GAAMPs). In June, the commission adopted a new GAAMP for Site Selection and Odor Control for New and Expanding Livestock Production Facilities, in response to legislation signed by the governor.

Other major issues of concern during 2000 were the Michigan Agriculture Environmental Assurance Program, Michigan Senator George McManus' Agriculture Preservation Task Force, the leasing of the Michigan State Fairgrounds, horse racing regulations, the new Michigan Food Law of 2000, Geagley Laboratory renovation, migrant worker recruiting, Plum Pox Virus, the Food Quality Protection Act, permanent trade status for China, and support for the Michigan grape and wine industry.

James Maitland chaired the commission in 2000. Jordan Tatter served as vice-chair, and Douglas Darling served as secretary. Deanna Stamp and Shirley Skogman also served as commissioners during 2000.

The commission conducted all meetings, business and equipment purchases within its budget of \$37,500.

EXECUTIVE OFFICE SUMMARY

The Michigan Department of Agriculture's Executive Office oversees the administrative and policy issues of the department. The Executive Office consists of the director, deputy director, director of agriculture policy, legislative liaison, public information officer and support staff.

The director is appointed by the Michigan Commission of Agriculture and acts as the chief executive officer of the agency. The director also works in concert with the commission on policy issues and serves as the depart-

ment's liaison with the Governor's Office and the Legislature.

The deputy director is responsible for managing the department's day-to-day operations, and works closely with the department's division directors and key program staff to oversee program functions.

The director of agriculture policy works closely with the director and other key personnel to review and revise department policies, or develop new ones. In addition, the director of agriculture policy serves as the key contact for federal issues, legislation, and congressional contacts.

The legislative liaison is MDA's link to the Michigan Legislature and the Michigan Office of Regulatory Reform.

The public information officer serves as the department's point person for media contacts and the public regarding MDA programs and issues.

DIVISION ACCOMPLISHMENTS

Top division accomplishments for 2000

Agriculture Development Division

The Agriculture Development Division (ADD), formerly known as the Office of Agriculture Development, acts as a clearinghouse for a variety of agriculture development and assistance programs. The division also works to strengthen profitability for Michigan's family farms, and enhance business opportunities for the food and agriculture industry, especially in rural Michigan. During 2000, the division:

- Guided a legislative package to preserve Michigan farmland and expand value-added agricultural processing opportunities. The legislation took effect in June 2000.
- Awarded grants totaling \$100,000 to 11 Michigan food and agricultural organizations for the promotion of Michigan products in 12 countries. Michigan food and agricultural organizations leveraged the grants with federal and private resources at a ratio of nearly 3-to-1, with \$204,000 in federal resources leveraged.

- Reimbursed \$360,000 to 17 Michigan food processors for international marketing expenses under the Branded Market Access Program (MAP), a federal program available through MDA's membership in the Mid-America International Trade Council (MIATCO). The returns through the Branded MAP program represent a 30-to-1 ratio of leveraged federal resources.
- Created certification requirements and a registration program for organic products. As a result, a law was enacted that provides the department with the authority to develop organic production, registration and certification standards in conjunction with the new Michigan Organic Advisory Committee.
- Participated in a new value-added agricultural venture, an underground agricultural growth chamber at White Pine Mine in Ontonagon, Michigan. The growth chamber will be used to grow and develop biopharmaceutical plants and seeds for a variety of medicinal purposes.
- The Rural Development Council of Michigan participated in the Ultimate Land Use Conference in February 2000, attracting more than 500 participants in discussions on land use issues, community growth and farmland preservation.

Animal Industry Division

The Animal Industry Division (AID) safeguards the health and safety of livestock and domestic animals in Michigan. The division monitors animal diseases, diseases transmitted by animals, and food safety hazards, to protect the health of Michigan residents. The division is responsible for administering reportable animal disease programs and overseeing toxic substance contamination incidents relating to animal health. AID also enforces the humane treatment of animals through the licensing and regulation of animal shelters, dog pounds, pet shops, riding stables and research facilities. The state veterinarian administers the division, and supervises animal disease surveillance and eradication programs throughout the state. During 2000, AID:

- Worked to amend Michigan's Animal Industry Act to provide for statewide bovine tuberculosis testing of cattle, bison, goats and cervidae so Michigan can regain bovine TB-free status. The amendments were signed into law in October 2000.

- Contracted with nearly 300 Michigan private practice veterinarians to conduct bovine tuberculosis testing. These veterinarians have tested more than 500,000 head of cattle and goats in 13,000 herds, and approximately 11,400 privately owned cervids. No cattle or goats outside the quarantined area, which is comprised of four counties in northeast lower Michigan, have tested positive for the disease.
- Attained pseudorabies-free status (Stage V) from USDA. Stage V status requires a state to be disease-free for one year following recognition of Stage IV. The last Michigan pseudorabies-infected hog farm was released from quarantine in early 1999.
- Started developing an emergency management plan in conjunction with the Michigan Animal Health Emergency Management Advisory Board that covers preparedness, response and recovery for disasters that claim animal victims, including disease outbreaks, natural disasters and man-made disasters.
- Assisted in guiding the enactment of new legislation to regulate the ownership of wolf-dog crossbred animals.

represent drainage systems with a combined length of roughly 160 miles, at an estimated cost of \$12 million. In addition, staff were involved in three watershed management projects involving nearly \$1 million in state and federal grant monies, and local in-kind matches.

- Preserved approximately 199,600 acres of farmland through extension of farmland agreements under the Farmland and Open Space Preservation Act (PA 116). Newly enrolled acres in the program totaled 13,120. Acres released from the program totaled 83,600; and liens were placed on 37,760 acres. Under the Purchase of Development Rights Program, 3,527 acres of farmland were preserved in perpetuity at a cost of \$4,020,360.
- Promoted amendment of the Right-to-Farm Act to set requirements for response times on Right-to-Farm complaints, and develop Generally Accepted Agricultural and Management Practices (GAAMPs) for Site Selection and Odor Control for New and Expanding Livestock Production Facilities. The Legislature passed the amendment, and the Commission of Agriculture approved the GAAMP, which was effective in March 2000.

Environmental Stewardship Division

The Environmental Stewardship Division (ESD) administers programs related to environmental protection and pollution prevention. Environmental stewardship activities focus on the enhancement of farming operations and agriculture land use, while protecting land and water resources and public health. During 2000, the division:

- Completed more than 160 intercounty drain maintenance projects, which involved approximately 600 miles of drains serving more than 1.5 million acres in 38 counties.
- Worked one-on-one with more than 1,000 producers to identify groundwater risks from pesticides and nitrogen fertilizers. Also worked with producers to develop and apply plans to reduce those risks. AmeriCorps members (affiliated with MDA through a national community service program) also worked with homeowners in more than 40 communities to reduce groundwater risks from lawn and garden practices.
- Administered 32 major intercounty drain petitioned projects for maintaining or improving existing intercounty drains, or establishing new ones. These petitions

- Responded to 140 Right-to-Farm complaints from 48 counties, with an average initial on-site inspection response time of 4.4 business days. Ninety percent of incoming complaints involved animal agriculture. Twenty-eight percent of all new complaints were from Ionia, Allegan, Lenawee, and Hillsdale counties. Complaints reflected the following resource concerns:

- 40 percent involved surface water.
- 37 percent involved air.
- 14 percent were combination complaints.
- 9 percent involved groundwater.

- Disposed of more than 150,000 pounds of pesticides around Michigan utilizing the Clean Sweep Program.
- Completed a domestic well study to determine pesticide and nitrate concentrations in private well water. Water samples were analyzed from 271 wells, including 76 wells serving migrant labor camps. Test results indicated that only one of the 271 wells contained low levels of atrazine and metolachlor. No pesticides were detected in any of the wells at the migrant labor camps.

- Provided financial assistance to 128 farmers for migrant housing projects that totaled \$2.3 million. ESD licensed 876 facilities with a housing capacity of 25,000.
- Provided energy conservation assistance to farmers and forest product producers, resulting in implementation of energy-efficient practices on more than 78,000 acres of land.
- Received 36 contacts and requests regarding the new GAAMP for Site Selection and Odor Control for New and Expanding Livestock Production Facilities. Most requests concerned the expansion of existing facilities.
- Responded to manure spills totaling 6,550 gallons and to three manure storage structure overflows. In addition, 11.5 cubic yards of soil containing pesticides was recovered for land application at agronomic rates.
- Installed nearly 750 Michigan emergency tubes, and developed a two-minute television news segment to explain the Michigan Emergency Tube program. The program, which is voluntary, assists farmers in preparing response plans for their farms in case of pesticide or fertilizer accidents.
- Funded grants in cooperation with the Michigan Department of Natural Resources through the Cooperative Resource Management Initiative, which enabled conservation districts to provide on-site resource management assistance to 7,448 landowners on 229,267 acres of private land. This assistance helped private forest landowners realize an income of \$5,488,216 through timber sales. The program also:
 - Facilitated the preparation of 1,055 comprehensive land management plans covering 61,478 acres.
 - Advised 748 local government units on tree planting and other resource management strategies.
 - Assisted in the distribution and planting of approximately 9 million tree and shrub seedlings and other conservation flora for reforestation, soil erosion control, water quality protection, and wildlife habitat enhancement.
 - Distributed information and other assistance to 19,698 citizens through office visits and electronic communication.

Fairs, Exhibitions and Racing Division

The Fairs, Exhibitions and Racing Division (FER) oversees Michigan's state and county fairs, and associated horse racing programs. FER also administers grant programs for Michigan's 88 county and local fairs, and the horse racing industry. The division's top accomplishments for 2000:

- Established a long-term lease agreement, including a private \$200 million investment project, that will provide capital improvements and large-scale building renovations to the Michigan State Fairgrounds in Detroit.
- Created a junior fair board to provide leadership opportunities for Michigan youth, and to stimulate understanding and interest in Michigan agriculture by supporting and encouraging 4-H and FFA programs.
- Revised the premium payment process, allowing all funding to be distributed to fairs prior to the event.
- Administered a drug testing program as part of Michigan's Program for Quality Animal Shows and Food Safety. Eighteen fairs participated in the program and, of 93 samples analyzed, none tested positive for drugs.
- Increased county fair harness horse drug detection coverage by 40 percent statewide, resulting in greater compliance.
- Developed and presented "It's FairTime! ReDiscover Our Agricultural Roots," an exhibit that explains how local fair associations have helped shape our communities and agriculture through annual fairs, past and present. The exhibit began showing at the Michigan State University Museum in 2000 and remained open through June 2001. A publication and television documentary were also developed in conjunction with the exhibit.
- Implemented three new thoroughbred awards to promote Michigan thoroughbred horse ownership.
- Improved safety and grounds conditions at the Upper Peninsula State Fair, including installation of safety cables in the indoor arena to ensure that runaway draft horse teams are unable to reach spectators during horse pulling events. Other changes include:

- New parking and traffic guidelines.
- Installation of underground water and electrical passages.
- Construction of a new maintenance building.
- Renovation of an exhibition building.

Finance and Technology Division

The Finance and Technology Division (F&T) administers business processes for the Michigan Department of Agriculture, including budget, accounting, auditing, procurement, facility management, travel arrangements and mail operations. In addition, the division develops and deploys new technology throughout the department, allowing program areas to focus time and attention on their primary responsibilities. F&T during 2000:

- Developed and implemented, in partnership with a committee of staff from other divisions, a highly successful Web-based travel system that can process travel expenses in two days, instead of weeks. Other state departments are now in various phases of replicating the system for their employees. This innovative process may be used as a model for a statewide system.
- The department is continuing to invest and align itself with the e-Michigan initiative. Plans are underway that include licensing over the Internet as well as providing customers with the ability to complete interactive forms in order to meet various business requirements.

Food and Dairy Division

The Food and Dairy Division (FDD) administers all food, beverage and dairy laws in the state of Michigan to fulfill its mission of protecting public health and ensuring a wholesome food supply. FDD regularly inspects food and dairy products from farms, restaurants, grocery stores and other food establishments. The division also strives to maintain a viable food industry by lending support and assistance to food producers, and functioning as an information source for consumers and stakeholders. Food safety is the division's top priority. In 2000, the division:

- Developed the Michigan Food Law of 2000, which was signed into law in November 2000. The new law represents the first major overhaul of Michigan's food safety laws in more than 30 years. It is patterned after the U.S. Food and Drug Administration's Model Food Code of 1999. The food code provides for a more

efficient working relationship between the agriculture department and local health departments, and allows food establishments to increase their focus on preventing the causes of food-borne illness.

- Implemented a comprehensive Food Law/Food Code training plan for regulatory staff. An independent study guide was developed for field staff, prior to the workshops, to familiarize inspectors with new regulatory codes. All regulatory staff participated in extensive training, which included group study modules, workshops and seminars. Staff were also provided with reference guides to assist them in communicating new food law information to members of the retail food and restaurant industries.
- Reengineered division business processes, forms and policies to reflect changes brought about by the Michigan Food Law of 2000.
- Presented day-long food safety training opportunities throughout the state for retail food and food service establishments. The nine seminars taught members of the retail food industry how to incorporate major law changes into their businesses.
- Implemented a procedure of standardized training for local health department field trainers. Twenty-eight of 43 local health department trainers received standardized training in 2000. The procedure incorporates Hazard Analysis Critical Control Points (HACCP) principles into the routine inspection process, with an emphasis on preventing problems rather than detecting them in the finished product.
- Participated as one of six states in a HACCP pilot program for dairy processing plants. The program was accepted by the National Conference on Interstate Milk Shipments as an alternative to the inspection process defined in the Pasteurized Milk Ordinance.
- Initiated an evaluation and accreditation process for local health departments in order to establish statewide standards for assessing accountability, and to secure the role of local health departments as public health leaders within their jurisdictions.
- Developed a training program for local health department sanitarians, with the assistance of a \$43,000 grant from the Food and Drug Administration. The program can be accessed through the Michigan Department of

Agriculture Web site and serves as a model for food regulatory agencies in the United States.

- Hosted the 42nd Annual Dairy Division Meeting of the National Association of State Departments of Agriculture (NASDA) in July 2000. Directors of state dairy regulatory programs discussed national dairy issues, and developed policies for inclusion in NASDA's policy statement. Michigan also hosted a meeting of the National Conference of Interstate Milk Shipments Executive Board, which, in cooperation with the Food and Drug Administration, develops national milk safety regulations.
- Completed a statewide program to remove mercury manometers from Michigan dairy farms and prevent environmental contamination from mercury. An estimated 100 pounds of mercury was collected from 86 dairy farms. Mercury collected during the program was taken to Clean Sweep sites for disposal.
- Installed a database to the existing Dairy Farm Inspection System, which allows dairy inspectors to track each farm's TB testing status. As a result of the state's loss of TB-free accreditation, the federal Grade A Pasteurized Milk Ordinance currently requires that all dairy farm herds in Michigan be tested annually.

Human Resources Division

The Human Resources Division (HR) supports department personnel in a variety of program areas. The division is responsible for the selection, hiring and compensation of department employees, as well as the administration of employee benefits, position classification, labor relations and training. The division oversees programs that ensure equal employment and equitable representation of groups within the department's work force. Programs include: recruitment, student programs, career seminars, reasonable accommodation coordination, sexual harassment complaint investigation, health and safety coordination, and compliance with the Americans with Disabilities Act (ADA). The division accomplished the following in 2000:

- Reengineered the department's selection process, allowing divisions to submit electronic requests to fill vacancies, electronic tracking of selection activities, Internet job postings, and acceptance of job applications via the Web.

- Finalized the MDA Employee Handbook and made it available on the department Intranet Web site.
- Developed a training database to enable divisions to maintain employee training histories in one central location, and to help divisions assess future training needs.

Laboratory Division

The Laboratory Division performs scientific and analytical services that support MDA programs. The laboratory also performs tests and offers consultation services for other state and federal agencies, as well as fee-based services to Michigan industry and private citizens.

The Laboratory Division consists of two world-class facilities: the William C. Geagley Laboratory in East Lansing, Michigan, and the E. C. Heffron Metrology Laboratory in Williamston, Michigan.

The Geagley Laboratory renders more than 300 different biological, chemical and physical tests on a routine basis. The laboratory examines food samples, beverages, pesticides, seeds, fertilizers and feeds to verify labels, ensure compliance with state and federal regulations, and to guarantee product quality. The Geagley Laboratory also monitors food and animal feed for contaminants, tests blood and urine from competing race horses for performance enhancing drugs, and tests livestock samples in order to prevent the spread of infectious diseases.

The Heffron Metrology Laboratory renders ultra-precise mass, volume and length calibration certification for Michigan businesses, and houses the consumer protection programs for Weights and Measures and Motor Fuels Quality. The metrology laboratory also conducts regulatory services, calibrating standards used for enforcement by the Michigan Treasury and Agriculture departments, the Michigan State Police, and all county road commissions. The tests and analyses conducted by the metrology laboratory assure that weights and measures in Michigan comply with national standards, making items eligible for international trade, and preventing economic fraud and deception. During 2000, the division:

- Commenced two renovation projects in 2000. The Geagley Laboratory is currently in phase one of a two-phase renovation project that will upgrade the 45-year-old building to a state-of-the-art facility. The renovation project also includes an addition to the

metrology laboratory in Williamston, which will provide an additional garage area for storage and maintenance of field equipment.

- Conducted approximately 22,000 tests on more than 6,000 samples of dairy, food and beverage products received from MDA inspection staff and local law enforcement agencies. Roughly 600 sample violations were reported, and led to recalls of products contaminated with *Listeria*, pathogenic *E. coli* or *Salmonella*, and one felony conviction for food tampering and public endangerment.
- Restructured procedures in the Pesticide Data Program to allow more efficient use of resources, and provide data for the Environmental Protection Agency's Food Quality Protection Act.
- Conducted research on the industry process for washing cherries to determine the amount of pesticide residue remaining in the water and surrounding soil after washing.
- Developed and implemented new methods for the detection of alternate-use pesticides.
- Analyzed approximately 285 groundwater samples for widely used pesticides that have the potential to leach into groundwater. An additional 1,900 samples were collected by the mobile lab program and analyzed for nitrate/nitrite, an indication of fertilizer contamination. (See Environmental Stewardship Division section, page 4, for results.)
- Analyzed 326 samples collected by the Pesticide and Plant Pest Management Division as part of the pesticide usage investigations.
- Participated in the Environmental Protection Agency/State Spring 2000 Check Sample program, receiving a satisfactory result.
- Analyzed 26 soil samples from urban garden plots from the Detroit area; analyzed 80 catfish samples collected in Region IV for PCBs; and analyzed 21 honey samples for various pesticides.
- Tested more than 202,000 regulatory and service samples for brucellosis, pseudorabies, equine infectious anemia, anaplasmosis, bluetongue, trichinella, Johne's disease and arboviral diseases. The lab's Animal Disease Surveillance section passed all annual proficiency and check tests, and participated in the collection of samples for the U.S. Department of Agriculture's National Bluetongue and Hog Cholera surveys.
- Added two testing programs to support new regulatory rules enacted by the Office of Racing Commissioner:
 - The Total Carbon Dioxide (TCO₂) testing program detects the presence of illegally administered bicarbonates. This substance can result in the elevation of carbon dioxide levels in a horse's blood, linked to improvements in performance. Approximately 15 blood samples showed levels of TCO₂ in excess of the limit.
 - The Lasix Quantitation Program helps identify improper use of the permitted diuretic Lasix. Five violations of the new Lasix rule, and six warning levels, were reported to the Office of Racing Commissioner.
 - The Equine Drug Testing section detected 100 percent of Association of Official Racing Chemists Proficiency Samples and correctly identified all six double-blind tests from the Association of Racing Commissioners International Proficiency Program.
- Analyzed 1,580 samples of gasoline, several of which were found to violate minimum octane standards. These samples were used in two noteworthy court cases and contributed to a television network investigative program on gasoline fraud in the United States.
- Installed a sulfur analyzer and an OFID oxygenate to detect trace amounts of illegal fuel additives.
- Tested thousands of stone-fruit trees for Plum Pox Virus, revealing the absence of the disease in Michigan.
- Issued 22 permits, in cooperation with the USDA's Animal and Plant Health Inspection Service (APHIS), to conduct research on poplar, grasses, potatoes, and corn in Michigan.
- Tested 233,184 Michigan blueberry plants for five plant viruses to help blueberry growers obtain disease-free plants for export and planting. Of these, 177,400 certified plants were sold to growers across the United States.
- Tested 276 bean samples for seed-borne diseases (anthracnose, common bean mosaic virus and common bean blight), to maintain the quality of dry bean seed and meet seed certification and export requirements.

Fifty-two samples of non-certified seed were infected with common bean mosaic virus. In addition, three samples of certified and 14 samples of non-certified seed were infected with common bean blight.

- Received 10,040 acres of seed corn from six seed companies for phytosanitary certification. Staff from the Pesticide and Plant Pest Management Division inspected 156 fields for bacterial, fungal and viral diseases. Fifty-three cornfields, representing 2,795 acres, were infested with *Erwinia stewartii* in four counties, and were denied certification. Testing for insects and *Diplodia* species was also completed on 148 seed corn samples from 14 growers for certification of 1998 corn for shipment to the Soviet Union.
- Tested service-type seed samples for seed companies, farmers, seed product exporters and others to ensure the seed met Michigan legal requirements, contract specifications or established quality levels.
- Tested almost 1,700 seed samples submitted by Pesticide and Plant Pest Management Division inspection staff. A non-compliance rate in excess of 10 percent was found. More than 150 wild bird feed samples were examined for the presence of viable noxious weeds in support of Michigan's Feed Regulations. Many lots were found unsalable due to the presence of bindweed, morning glory, quackgrass and other serious weeds.
- Investigated more than 1,200 motor fuel quality complaints from consumers. The investigations revealed that more than 120 gasoline stations were providing substandard fuels. In many cases, gasoline transport drivers made errors in their delivery of fuel, or pump installation companies made errors in maintenance or installation of pumps, resulting in premium and mid-grade fuels being substandard for octane.
- Monitored gasoline volatility at more than 600 gasoline dispensing facilities in southeast Michigan in order to help prevent ozone damage. This allowed southeast Michigan to maintain National Ambient Air Quality Standards. Eight facilities, found dispensing high volatility gasoline during on-site audits, were required to suspend usage until the proper fuels were obtained.
- Experienced a 32 percent increase in weights and measures complaints since 1999, with a 70 percent increase of complaints alleging violations of the Consumer Pricing and Advertising Act. Six consent agreements were issued, with costs assessed in excess

of \$23,000; costs were recouped by MDA. Thirty-three warning letters were issued for short weight/measure violations; 11,773 commercial weighing and measuring devices were inspected and approved, another 952 were condemned for repair, and 284 condemned for use.

- Passed the National Voluntary Laboratory Accreditation Program on-site audit with no deficiencies noted. Michigan's E. C. Heffron Metrology Laboratory was the second in the United States accredited at the highest (Echelon I) calibration level for mass standards.

Marketing and Communications Division

The Marketing and Communications Division (MAC) creates a public identity for MDA, and serves divisions within the department as an in-house advertising agency by creating tools for, and offering consultation on, marketing and communications matters. The division also handles marketing opportunities, promotions, publications, special event planning, and agricultural emergencies and disasters for the department. During 2000, MAC:

- Welcomed a new director of marketing and communications, Kathleen Kissman, in January 2000. Kissman has extensive marketing and communications experience with the Michigan State University Alumni Association, and Sparrow Health System in Lansing. She replaced Margaret Cooke who served as the division's director before retiring in 1999.
- Implemented a new system for sending news releases by fax, reducing the time and labor involved in distributing news releases.
- Designed a new department logo.
- Developed a "Guide to the Michigan Department of Agriculture," which identifies executive level staff and all major programs within the department for the Legislature and general public; updated the U-Pick/Farm Market Directory; and published 10 issues of the internal newsletter, "MDA News."
- Launched the Select Michigan "Great Lakes – Great Earth" program to promote the sale of Michigan Christmas trees, nursery stock and bedding plants. The number of food and agriculture companies using the Select Michigan logo increased by more than 400 percent during 2000, the first full year of the promotion.

- Held two referendums: The Michigan Cranberry Industry Development Program was approved by referendum, joining 13 other commodity groups organized under the Agricultural Commodities Marketing Act. The Michigan Mint Research and Development Program voted to dissolve their program by referendum, as is permitted in the act.
- Installed new software to track the purchase of fruits and vegetables covered under the Agricultural Marketing and Bargaining Act.
- Provided assistance to the U.S. Department of Agriculture in declaring five agricultural disasters in Michigan, making farmers in 77 of Michigan's 83 counties eligible for low-interest loan assistance.
- Participated in a successful, five-day ingestion pathway exercise at the Palisades Nuclear Power Plant, which involved department staff collecting actual samples of food and agricultural products for radiological analysis.
- The departmental hearing officer heard six contested cases, all involving Motor Fuels Quality Act enforcement actions. Four cases were public hearings involving commodity referenda; one was a public hearing involving amendments to Regulation 851, State Fair Rules; and three were public meetings to gather input on Generally Accepted Agricultural and Management Practices pending decision before the Commission.
- Attracted 85 participants to a Michigan wine industry meeting in February for professional development. Awarded research grants totaling \$129,000 for viticulture and enology research at Michigan State University. Updated the Michigan Grape and Wine Industry Council's Web site to include a consumer response form, and redesigned the Michigan Wine Country publication. Five new wineries opened in 2000 and two small operations closed. Wineries reported increased numbers of visitors to their tasting rooms.
- Processed 412 Freedom of Information Act (FOIA) requests for MDA in 2000.

Michigan Agricultural Statistics Service

The Michigan Agricultural Statistics Service (MASS) is responsible for the official Michigan agricultural database, which was established under a formal agreement between

Michigan and the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS).

During the growing season, MASS conducts numerous surveys and routinely prepares forecasts and estimates on acreage, yield and production of Michigan field crops, fruits and vegetables. Crop-weather information is provided weekly during the growing season to reflect current crop conditions and development progress. Growing areas, production and value of Michigan's floriculture industry are published annually. MASS also estimates Michigan's livestock, poultry and dairy populations, and tracks related commodity prices. The estimating program provides information on agricultural land values, farm numbers, land in farms, expenditures and labor. MASS conducts the Michigan Census of Agriculture every five years; supplemental surveys are periodically performed for aquaculture, irrigation, horticulture, and land ownership. Another significant survey component involves collection of agriculture pesticide use data. During 2000, MASS:

- Assisted MDA with special surveys by:
 - Mailing hearing notices for two public hearings on the proposed Michigan Wheat Industry Program.
 - Conducting a survey, in cooperation with Michigan Integrated Food and Farming Systems (MIFFS), to determine support and product availability for a farmers' market in Clare. The information was used to promote economic development in that Federal Enterprise Community.
- Provided county estimates for 15 major crop and livestock commodities as part of a cooperative program with MDA.
- Published the Michigan Rotational Nursery and Christmas Tree Survey, a complete enumeration of all Michigan nursery and Christmas tree farms. The bulletin included the number of farms, size of operation, acreage, field or container-grown acreage, and number and acreage (by county) for nurseries and Christmas trees. The bulletin is available in hard copy or on the Internet. MASS began collecting data on the acreage, varieties, and rootstock of Michigan fruit crops in the fall of 2000. Questions were added to the survey to estimate the loss of apple trees due to fire blight in southwest Michigan. The results of the fruit tree inventory will be published in the summer of 2001.
- Completed the annual mid-June Tart Cherry Objective Measurement Survey in which fruit counts were made

on a sample of about 540 tart cherry trees across the state. The data provided current crop production statistics for the Michigan tart cherry industry. The 2000 crop totaled 200 million pounds.

- Provided support to the Cherry Industry Administrative Board (CIAB) in the areas of administration and field production monitoring, for the tart cherry diversion program. CIAB regulates the amount of fruit going to market in years when supply exceeds demand. National Association of State Departments of Agriculture (NASDA) enumerators, working through MASS, conduct the field work for the tart cherry diversion program.
- Collected chemical use information on three field crops and 19 vegetable crops. Survey data will be used to evaluate chemical use levels for the Environmental Protection Agency, to use in administering the Food Quality Protection Act (FQPA).
- Conducted an Agricultural Economics and Land Ownership Survey (AELOS), as a follow-up to the 1997 Census of Agriculture. This demographic information on farm operators and landlords was last done in 1988. Survey results were published in the summer of 2001.
- Created portable document format (PDF) files for 103 annual agricultural statistics bulletins dating back to 1886; rotational surveys beginning in 1991; the Census of Agriculture for Michigan from 1945-1987; and 45 other crop, livestock, fruit, county and special survey publications. These documents have all been uploaded to the Internet where users can access the information from the Michigan Department of Agriculture's home page. CD-ROM copies of individual files are also available.
- Released the annual bulletin, which reflected details of 1999 production, stocks, inventory, disposition, utilization and prices of agricultural commodities. Report information included Michigan rankings, record highs and lows, weather, county estimates, chemical usage and farm economics. The Michigan Department of Agriculture's Annual Report was also included in this publication.
- Worked with the National Association of State Departments of Agriculture (NASDA), using telephone and field enumerator staff located throughout the state and employed by NASDA, to assist in collecting data from

farmers and agribusinesses. NASDA enumerators also assisted MDA in screening livestock to be tested for bovine tuberculosis in the northeast Lower Peninsula, the Upper Peninsula, and in Antrim, Mecosta and Osceola counties.

Pesticide and Plant Pest Management Division

The Pesticide and Plant Pest Management Division (PPPM) is the state's focal point for pesticide enforcement activities. In cooperation with the U.S. Environmental Protection Agency (EPA), PPPM enforces laws and oversees programs concerning pesticide sale and use. The division administers programs to protect human health and the environment from potential risks related to improper pesticide use. The division also oversees programs to control exotic pests, certifies nursery stock and other plant material for interstate shipment, conducts inspection and grading of fruits and vegetables, and certifies export commodities. PPPM also ensures the safety and proper labeling of agricultural products such as animal feed, seed, fertilizer, and animal remedies in cooperation with the U.S. Department of Agriculture. During 2000, the division:

- Conducted several pesticide product and use-related inspections and investigations, including 233 pesticide use investigations, 58 of which occurred in agricultural situations; 116 planned use inspections of pesticide applicator facilities; 55 pesticide-producing establishment inspections; 20 federal marketplace inspections; and 114 restricted-use pesticide dealer audits. PPPM also conducted compliance and enforcement inspections related to the application of worker protection standards.
- Submitted 22 requests to the EPA for emergency exemptions to allow the use of an unregistered pesticide to control an emergency pest problem, in accordance with Section 18 of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). Michigan ranked among the top 10 states in the nation in this area of producer assistance. Four 24(c) registrations were issued allowing control of several pest problems for which federally registered pesticide products were not available.
- Sampled and monitored five commodities, including tart cherries, carrots, blueberries, apples and grapes, as part of the 2000 pesticide residue monitoring project. The data provided a critical link between actual

pesticide use and resulting residues in raw and processed commodities. The project also coordinates residue testing with Michigan State University research on new alternatives and pest control efficacy, providing EPA with residue data on new chemistries.

- Developed and implemented a surveillance program and emergency response plan for arbovirus emergencies, including West Nile virus, eastern equine encephalitis, and St. Louis encephalitis. The 2000 Arbovirus Surveillance Program involved individuals from local health departments, state agencies, mosquito control districts, and universities, as well as industry professionals and volunteers. Surveillance teams submitted mosquito samples and bird sera from wild birds and sentinel flocks for testing.
- Administered examinations to 15,631 individuals seeking pesticide applicator certification and registration credentials.
- Prepared final drafts of amendments to Act 451, Part 83, Pesticide Control and Regulation 636, Pesticide Applicators, which are now awaiting movement through the legislative and rulemaking process. Significant changes include e-commerce regulatory authority for registration of pesticides, prohibitions for selling pesticides for illegal use (use other than allowed by label directions), minimum age restriction for commercial certification (18 years), fee increases to support new initiatives, and modifications to applicator certification categories.
- Implemented an electronic Pesticide Registration Tracking System (PRTS) to facilitate MDA's enforcement of pesticide registration requirements. It is updated quarterly with the EPA's pesticide registration database (PPIS), giving Michigan access to the federal registration status of pesticides registered in Michigan.
- Collected leaf samples from 34,638 stone-fruit trees, distributed across 22 counties, and tested them for Plum Pox Virus (PPV) as part of a national survey. All of the samples tested negative, providing reassurance to Michigan's \$1.7 million stone-fruit nursery and orchard industry.
- Identified the presence of an exotic insect called beech scale associated with Beech Bark Disease (BBD) in Michigan at Ludington State Park. In addition, BBD-induced beech mortality and decline was discovered in Luce County. An estimated 7.5 million beech

trees, representing 800 million board feet of saw timber, have been infected. The infestation is now beyond control and reflects the ongoing problem of new exotic pests moving into Michigan, often without any natural enemies.

- Coordinated the gypsy moth cooperative suppression program, resulting in the treatment of more than 78,000 acres in 18 counties. The applications provided relief to more than 80,000 residents and 1.3 million parkland users.
- Inspected and certified more than 12,000 acres of nursery stock, and more than 54,000 acres (830 farms) of commercial Christmas tree production for compliance with interstate and international trade standards.
- Issued 830 federal phytosanitary certificates for exports of agricultural commodities valued at approximately \$1.2 billion to 39 foreign countries.
- Conducted more than 12,550 shipping-point inspections to determine the grade of produce valued at \$14,346,846. Produce entering Michigan from other states and foreign countries, destined for both the fresh market and processing, was also inspected.
- Developed a new demonstration program for on-farm bulk storage to offer cost-share assistance to farmers in constructing secondary containment structures around 20 existing on-farm bulk liquid fertilizer tanks. Up to \$5,000 per site will be provided for construction of new containment structures throughout the state.
- Conducted more than 630 sanitation inspections of Michigan's 379 grain elevator and feed manufacturing facilities to ensure the safety and integrity of raw grain commodities in storage.

The Office of Racing Commissioner

The Office of Racing Commissioner (ORC) is an independent agency within MDA that regulates pari-mutuel horse racing in Michigan in accordance with the Horse Racing Law of 1995, as amended, and the rules of the racing commissioner.

The racing commissioner, appointed by the governor for a four-year term, prescribes rules, regulations and conditions under which all pari-mutuel horse racing meets are conducted within the state.

The ORC allocates race dates and issues track, race meeting and occupational licenses. In addition, the office collects license and track revenues, appoints stewards and veterinarians to represent the state, approves track-appointed officials, and monitors the daily conduct of horse racing. ORC also conducts equine and human drug-testing programs, and investigates any irregularities in racing that may lead to formal hearings and sanctions. ORC functions primarily as a regulatory agency, but also focuses on improving and promoting horse racing in Michigan. During 2000, the ORC:

- Hosted meetings in partnership with the Michigan Economic Development Corporation and potential investors to encourage investment in the growth of the horse racing industry.
- Commenced revision of ORC administrative rules, in cooperation with the Michigan Office of Regulatory Reform.
- Secured budget supplements for fiscal years 2000 and 2001 to enable continuation of strong regulatory processes along with upgrades in several areas, including testing procedures at MDA's Geagley Laboratory.
- Strengthened regulatory drug testing standards for human and equine racing participants, including the addition of a Lasix Quantitation Program and a blood-carbon testing program (TCO2).
- Authorized 1,009 rulings issued by state stewards. Of these rulings, 993 penalties were enforced, with fines assessed in the amount of \$53,890; 16 of the rulings are still pending final action. Based on appeals of these rulings, the ORC conducted 26 formal hearings in accordance with the Horse Racing Law of 1995, as amended, and the rules of the ORC.

- Reengineered race track technology with the installation of a new computer system for Michigan's seven pari-mutuel tracks, resulting in streamlined licensing procedures for owners, trainers, veterinarians and others.
- Issued more than 6,550 occupational licenses in 2000.
- Established an ORC Information Office to increase media coverage of horse racing as an entertainment and sporting event.
- Established a Michigan horse racing historical project to create permanent and traveling exhibits to be housed and shown at museums and county fairs throughout the state.

Conclusion

As you can see, the Michigan Department of Agriculture plays an extensive role in the daily lives of Michigan residents. The administration and staff of MDA respectfully submit this report to the citizens of Michigan. We hope you find it informative and helpful.

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Part II:

**Michigan
Agricultural
Statistics
2000-2001**

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Rank in U.S. agriculture by selected commodities, 2000

Rank	Item	Unit	Quantity	Percent of U.S.	Leading state
			<i>Thousands</i>	<i>Percent</i>	
1	Beans, dry, black	Cwt	840	62.6	Michigan
	Beans, dry, cranberry	Cwt	380	84.1	Michigan
	Beans, dry, light red kidney	Cwt	285	21.0	Michigan
	Beans, dry, navy	Cwt	1,800	37.7	Michigan
	Blueberries	Pounds	62,000	33.4	Michigan
	Cherries, tart	Pounds	200,000	69.3	Michigan
	Cucumbers (processing)	Tons	180	29.4	Michigan
	Flowering hanging baskets	Number	3,457	10.0	Michigan
	Geraniums (seed and cuttings)	Pots	22,383	20.9	Michigan
	Grapes, Niagara	Tons	19.1	36.4	Michigan
	Hosta	Pots	3,156	26.8	Michigan
	Impatiens	Flats	2,403	15.9	Michigan
	Marigolds	Flats	784	17.6	Michigan
	Other potted perennials	Pots	19,356	15.2	Michigan
Petunias	Flats	1,502	13.3	Michigan	
2	Beans, dry, all	Cwt	4,125	15.6	North Dakota
	Beans, dry, dark red kidney	Cwt	182	17.9	Minnesota
	Beans, dry, small red	Cwt	113	36.1	Idaho
	Celery	Cwt	950	5.4	California
3	Apples	Pounds	850,000	8.1	Washington
	Asparagus	Cwt	283	12.5	California
	Beans, snap (processing)	Tons	92	11.0	Wisconsin
	Carrots (fresh market)	Cwt	1,260	3.9	California
	Grapes, Concord	Tons	64.5	16.5	Washington
	Radishes	Cwt	175	14.3	Florida
Vegetable type bedding plants	Number	720	6.7	California	
4	Carrots (processing)	Tons	35	6.7	Washington
	Cucumbers (fresh market)	Cwt	1,340	11.6	Florida
	Cherries, sweet	Tons	19.6	9.5	California
	Grapes, all	Tons	87.2	1.1	California
	Plums	Tons	3.6	1.5	California
	Sugarbeets	Tons	3,403	10.5	Minnesota
	Tomatoes (processing)	Tons	84.0	0.8	California
5	Pumpkins	Cwt	704	7.9	Illinois
6	Squash	Cwt	610	7.0	Georgia
7	Maple syrup	Gallons	44	3.6	Vermont
	Mushrooms	Pounds	11,637	1.4	Pennsylvania
8	Milk	Pounds	5,705,000	3.4	California
10	Potatoes	Cwt	14,963	2.9	Idaho
	Soybeans	Bushels	74,880	2.7	Illinois
11	Corn, for grain	Bushels	244,280	2.4	Iowa
13	Hogs, as of Dec. 1	Head	950	1.6	Iowa
14	Eggs	Number	1,621,000	1.9	Ohio
15	Wheat, winter	Bushels	36,000	2.3	Kansas
17	Hay, all	Tons	4,330	2.8	Texas
22	Cash receipts	Dollars	3,474,924	1.8	California
31	Cattle, as of Jan. 1	Head	980	1.0	Texas

Farm numbers: Acreage and value of farm real estate, 1997-2001 ¹

Year	Number farms	Average size per farm	Total land in farms	Farm real estate average value per acre	Cropland average value per acre	Average cash rent per acre
	<i>1,000 farms</i>	<i>Acres</i>	<i>1,000 acres</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
1997	53	196	10,400	1,530	1,360	57.30
1998	52	200	10,400	1,670	1,480	60.00
1999	53	196	10,400	1,850	1,670	60.00
2000	52	200	10,400	2,150	2,000	60.00
2001				2,250	2,100	60.00

¹ USDA estimates of farm number and land in farms are based on the definition "a farm is any establishment from which \$1,000 or more of agricultural products were sold or would normally be sold during the year."

Number of farms and land in farms by economic sales class, 1996-2000

Year	Economic sales class			Total
	\$1,000-\$9,999	\$10,000-\$99,999	\$100,000 and over	
	<i>1,000 farms</i>	<i>1,000 farms</i>	<i>1,000 farms</i>	<i>1,000 farms</i>
1996	29.8	17.0	7.2	54.0
1997	28.5	17.0	7.5	53.0
1998	27.0	17.0	8.0	52.0
1999	28.5	16.5	8.0	53.0
2000	27.5	16.5	8.0	52.0
	<i>Million acres</i>	<i>Million acres</i>	<i>Million acres</i>	<i>Million acres</i>
1996	2.2	3.1	5.3	10.6
1997	2.0	2.9	5.5	10.4
1998	1.9	2.8	5.7	10.4
1999	1.9	2.8	5.7	10.4
2000	1.9	2.8	5.7	10.4

Farm Income

Net farm income in 2000 fell 55 percent to \$305 million. That was despite \$381 million of government payments. The total agriculture output was \$3.85 billion dollars, down 5 percent from 1999. Production expenses were \$3.92 billion in 2000, up 4 percent from the previous year.

Preliminary cash receipts from 2000 marketings of Michigan crops, livestock and livestock products totaled \$3.47 billion, virtually unchanged from 1999. Michigan ranked 22nd nationally in total cash receipts.

Crop receipts, \$2.14 billion, were nearly unchanged from 1999.

A large decline in the market value of dry beans was offset by increases in corn and soybean marketings. Livestock cash receipts were up .5 percent from a year earlier to \$1.34 billion. Increases in the value of sales of meat animals and poultry more than offset declines in milk receipts.

In 2000, the top ten Michigan commodities ranked by cash receipts were: milk, soybeans, corn, cattle and calves, hogs, annual bedding plants, woody ornamentals, sugar beets, potatoes, and apples.

Government payments, 1996-2000 ¹

Program	1996	1997	1998	1999	2000
	<i>1,000 dollars</i>				
Conservation programs	22,963	20,854	17,488	16,893	16,842
Production flexibility contract payments	NA	NA	100,556	87,116	87,564
Loan deficiency payments	NA	NA	38,577	131,482	112,565
Miscellaneous programs	² 86,622	² 100,433	³ 51,755	10,569	17,713
Supplemental Funding	NA	NA	NA	⁴ 143,076	146,372
Total	109,585	121,287	208,077	389,099	381,056

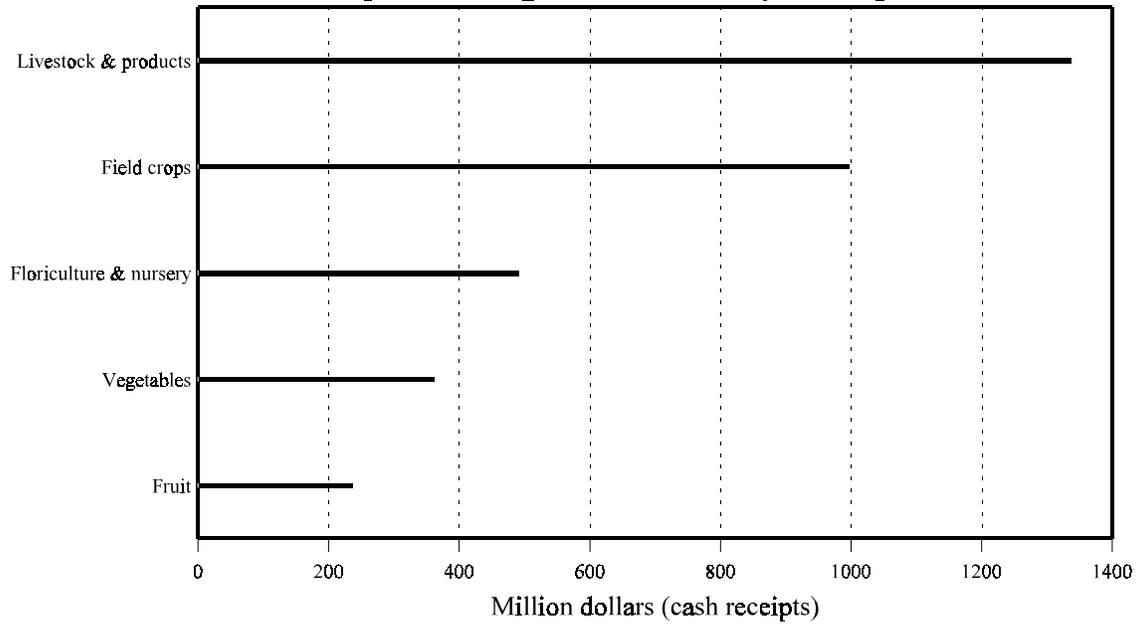
¹ Source: U.S. Department of Agriculture, Economic Research Service

² Programs included are CAT, Disaster, Loan Deficiency, NAP, and Production Flexibility, and repayments by farmers.

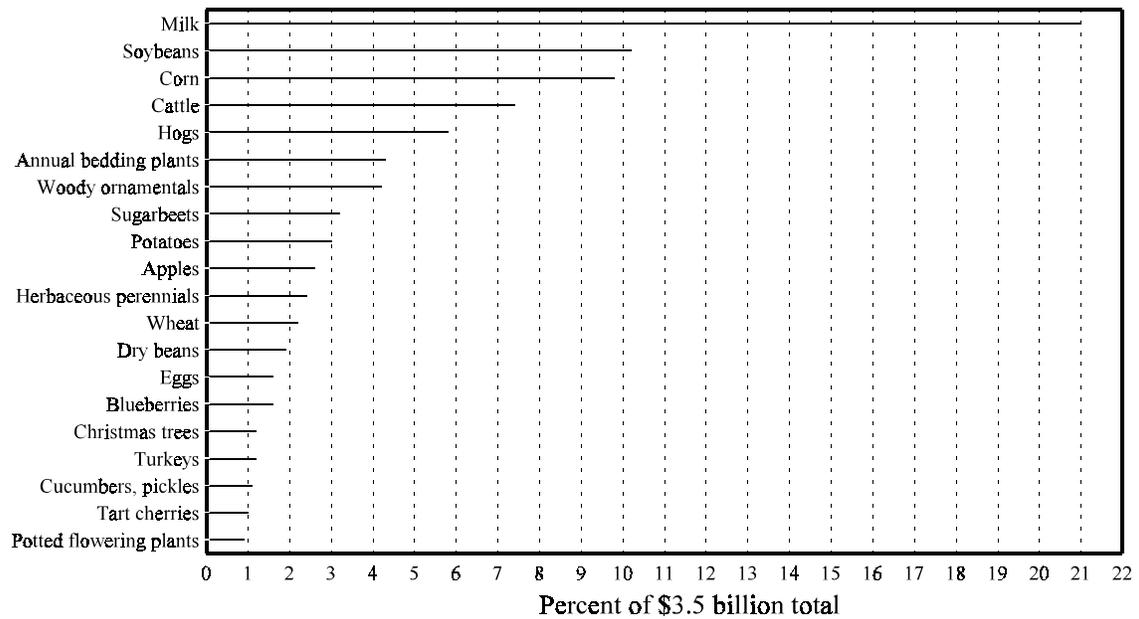
³ No longer includes Loan Deficiency and Production Flexibility payments.

⁴ Provided by the Omnibus Supplemental Appropriations, Act of 1999 & Emergency Assistance Provisions of Agriculture Appropriation 2000.

Major Michigan Commodity Groups, 2000



Top 20 Commodities in Cash Receipts



Value added to the economy by the Michigan agricultural sector 1996-2000 ¹

Item ²	1996	1997	1998	1999	2000
	<i>Million dollars</i>				
Final crop output	2,042.4	2,373.4	2,137.5	2,275.0	2,080.1
Food grains	95.2	104.5	67.7	71.6	76.5
Feed crops	508.7	494.3	418.5	370.3	377.4
Oil crops	320.6	406.4	412.9	317.1	354.0
Fruits and tree nuts	224.5	240.1	217.2	243.2	235.6
Vegetables	442.3	380.3	429.3	452.0	429.0
All other crops	560.0	633.2	637.3	684.6	667.1
Home consumption	3.6	3.6	3.6	3.8	3.6
Value of inventory adjustment ³	-112.5	110.9	-49.0	132.4	-63.2
Final animal output	1,441.2	1,320.6	1,335.1	1,299.0	1,318.0
Meat animals	459.4	451.7	338.2	387.9	460.0
Dairy products	807.5	732.1	814.0	801.4	729.5
Poultry and eggs	150.5	133.6	119.2	90.9	98.7
Miscellaneous livestock	49.1	47.4	48.6	47.6	47.1
Home consumption	9.9	9.9	9.3	9.7	10.8
Value of inventory adjustment ³	-35.1	-54.1	5.8	-38.5	-28.1
Services and forestry	395.9	435.3	437.5	483.8	447.7
Machine hire and custom work	45.8	34.9	49.7	37.9	30.0
Forest products sold	10.0	10.0	10.0	10.0	10.0
Other farm income	71.0	96.2	88.4	92.6	92.8
Gross imputed rental value-farm dwellings	269.1	294.2	289.4	343.4	314.8
Final agricultural sector output	3,879.5	4,129.3	3,910.1	4,057.9	3,845.7
less: Intermediate consumption outlays	2,073.5	2,317.5	2,213.0	2,180.4	2,253.4
Farm origin	613.2	690.3	657.4	621.0	651.3
Feed purchased	381.9	423.0	373.8	327.6	340.6
Livestock and poultry purchased	38.2	41.0	39.2	44.0	50.0
Seed purchased	193.1	226.3	244.4	249.4	260.7
Manufactured inputs	652.4	714.3	663.9	635.7	686.8
Fertilizers and lime	251.2	281.6	249.9	235.2	243.6
Pesticides	206.2	228.7	228.7	217.9	225.1
Petroleum fuel and oils	138.6	145.5	128.7	124.3	160.2
Electricity	56.3	58.5	56.6	58.3	58.0
Other intermediate expenses	807.9	912.9	891.7	923.6	915.3
Repair and maintenance of capital items	291.8	302.7	308.2	300.2	277.9
Machine hire and custom work	58.5	68.3	77.5	72.5	75.6
Marketing, storage, and transportation ex	107.3	116.8	93.1	113.8	126.8
Contract labor	12.2	15.3	21.8	16.1	14.1
Miscellaneous expenses	338.2	409.7	391.1	421.1	420.8
plus: Net government transactions	-109.8	-106.6	1.3	207.7	180.0
plus: Direct Government payments	109.6	121.3	210.6	401.4	381.1
less: Motor vehicle registration and licensing	8.1	11.8	10.5	9.3	8.6
less: Property taxes	211.3	216.0	198.8	184.4	192.4
Gross value added	1,696.2	1,705.3	1,698.4	2,085.2	1,772.3
less: Capital consumption	532.9	536.4	545.7	573.5	587.9
Net value added	1,163.3	1,168.9	1,152.7	1,511.7	1,184.4
less: Factor payments	753.0	779.1	842.5	834.9	879.7
Employee compensation (total hired labor)	464.8	477.1	514.5	499.8	551.6
Net rent received by nonoperator landlords	44.7	52.4	73.6	82.3	67.7
Real estate and nonreal estate interest	243.4	249.5	254.4	252.8	260.3
Net farm income	410.3	389.9	310.3	676.8	304.7

¹ Source: U.S. Department of Agriculture, Economic Research Service.

² Final sector output is the gross value of the commodities and services produced within a year. Net value-added is the sector's contribution to the National economy and is the sum of the income from production earned by all factors-of-production. Net farm income is the farm operator's share of income from the sector's production activities. The concept presented is consistent with that employed by the Organization for Economic Cooperation and Development.

³ A positive value of inventory change represents current-year production not sold by December 1. A negative value is an offset to production from prior years included in current-year sales.

Cash receipts by commodity groups and selected commodities 1996-2000 ¹

Item	1996	1997	1998	1999	2000
	<i>1,000 dollars</i>				
Total cash receipts	3,617,792	3,623,781	3,502,942	3,466,774	3,474,924
Total livestock and products	1,466,485	1,364,858	1,320,034	1,327,854	1,335,296
Meat animals	459,383	451,673	338,236	387,878	460,002
Cattle and calves	238,674	230,906	196,656	235,829	257,320
Hogs	215,629	213,722	138,347	149,937	200,485
Sheep and lambs	5,079	5,578	3,233	2,111	2,197
Dairy (milk)	807,489	732,135	813,960	801,420	729,495
Poultry and eggs	150,481	133,647	119,233	90,914	98,739
Eggs	68,426	61,927	57,639	53,655	56,739
Turkeys				35,092	40,460
Other	82,055	71,720	61,594	2,167	1,540
Miscellaneous livestock	49,132	47,403	48,605	47,642	47,060
Honey	8,726	4,582	4,488	4,095	3,240
Mink pelts	2,767	2,012	1,854	1,339	1,719
Trout	2,058	1,486	1,151	1,113	1,037
Other	35,581	39,323	41,112	41,095	41,064
Total crops	2,151,307	2,258,923	2,182,908	2,138,920	2,139,628
Field crops	1,136,997	1,216,381	1,111,020	1,019,410	995,884
Corn	458,202	429,042	380,769	329,713	340,612
Dry beans	123,955	85,489	101,836	135,567	67,302
Hay	43,734	59,659	32,468	35,272	32,127
Soybeans	319,930	405,792	412,416	316,754	353,687
Sugarbeets	81,661	117,040	101,586	115,915	111,618
Wheat	94,858	104,098	67,330	70,918	75,700
Other	14,657	15,261	14,615	15,271	14,838
Vegetables	318,341	294,861	327,465	316,472	361,668
Asparagus	20,110	17,792	17,320	18,822	18,075
Beans, snap	13,657	15,597	21,659	19,493	16,778
Carrots	17,736	18,903	19,281	16,717	19,292
Celery	13,294	14,358	13,327	11,005	12,369
Corn, sweet	17,229	17,408	12,900	13,282	13,430
Cucumbers, fresh	16,720	18,048	21,366	22,506	25,192
Cucumbers, pickles	21,497	20,550	21,970	26,076	38,700
Onions	15,775	11,170	10,077	8,951	7,644
Peppers, green, fresh	7,360	7,817	8,640	9,600	10,395
Potatoes	94,642	69,505	82,603	82,258	105,562
Pumpkins					26,752
Squash					9,333
Tomatoes, fresh	10,454	9,680	18,596	16,549	18,115
Tomatoes, processing	10,539	9,771	7,560	7,308	6,804
Other	59,328	64,262	72,166	63,905	33,227
Fruit	224,531	240,134	217,243	243,232	235,609
Apples	109,002	92,192	93,808	95,406	88,618
Blueberries	36,330	50,042	30,260	54,660	55,140
Grapes	13,555	17,873	19,820	21,083	24,156
Peaches	10,250	14,450	11,546	5,440	11,340
Strawberries	4,512	7,411	7,089	6,412	6,712
Sweet cherries	15,607	19,986	18,551	14,149	9,520
Tart cherries	31,202	34,380	32,162	42,134	36,370
Other	4,073	3,800	4,007	3,948	3,753
Miscellaneous crops	66,186	66,165	68,735	67,866	65,815
Floriculture and nursery	415,253	451,384	468,444	501,939	490,652

¹ Source: U.S. Department of Agriculture, Economic Research Service.

Crops: Marketing year average prices received by farmers, 1996-2000 ¹

Year	Corn per bushel	Winter wheat per bushel	Oats per bushel	Soybeans per bushel	Dry beans per cwt	Navy beans per cwt	Fall potatoes per cwt	All hay per ton	Alfalfa hay per ton
	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
1996	2.66	3.91	2.41	7.15	21.70	NA	5.80	106.00	108.00
1997	2.40	3.26	1.86	6.47	18.90	NA	6.45	86.00	103.00
1998	1.90	2.33	1.42	4.99	21.60	NA	6.70	89.00	90.00
1999	1.78	2.12	1.35	4.61	16.80	NA	6.80	69.00	72.00
2000	1.90	2.10	1.20	4.75	13.90	NA	6.85	62.00	64.50

¹ Marketing year average prices received by farmers are based on monthly prices weighted by monthly marketings during specific periods. Prices do not include allowance for CCC loans outstanding, purchases by the government, or deficiency payments.

Crops: Monthly prices received by farmers, 1999-2000

Year	Corn per bushel	Winter wheat per bushel	Oats per bushel	Soybeans per bushel	Dry beans per cwt	Navy beans per cwt	Fall potatoes per cwt	All hay per ton	Alfalfa hay per ton
	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
1999									
June								62.00	65.00
July		2.01	1.38				6.60	54.00	55.00
August		2.14	1.24				5.75	61.00	65.00
September		2.24	1.31	4.58	19.00	19.80	5.60	68.00	70.00
October	1.72	2.23	1.35	4.50	18.00	18.00	5.95	78.00	80.00
November	1.68	1.83	1.20	4.40	15.00	15.80	6.20	64.00	65.00
December	1.70	2.04	1.58	4.42	15.90	13.80	6.75	81.00	85.00
2000									
January	1.85	2.20	1.50	4.63	15.00	16.00	6.90	77.00	80.00
February	1.95	2.24	1.42	4.78	14.60	13.00	7.20	72.00	75.00
March	2.08	2.41	1.42	4.88	13.70	12.00	7.35	67.00	70.00
April	2.03	2.08	1.42	5.09	15.00	18.40	7.80	72.00	75.00
May	2.08	2.20	1.60	5.21	14.20	11.20	8.35	74.00	80.00
June	1.91	2.00	1.44	4.96	11.80	12.20	8.50		
July	1.76			4.68	12.00	11.00			
August	1.51			4.50	11.00	10.80			
September	1.59								
2000									
June								58.00	60.00
July		1.93	1.33				8.60	57.00	60.00
August		1.86	1.13				6.95	57.00	60.00
September		2.00	1.15	4.75	13.70	12.20	5.95	63.00	65.00
October	1.74	2.14	1.35	4.50	15.10	13.10	5.95	63.00	65.00
November	1.86	2.01	1.54	4.55	13.70	12.10	6.35	73.00	75.00
December	1.88	2.02	1.36	4.73	13.00	11.70	6.55	63.00	65.00
2001									
January	2.04	2.62	1.47	4.67	12.50	11.00	6.85	59.00	60.00
February	1.96	2.49	1.42	4.45	12.80	11.00	7.20	64.00	65.00
March	1.95	2.44	1.62	4.42	13.10	12.30	7.60	69.00	70.00
April	1.90	2.36	1.29	4.29	11.90	11.20	8.25	64.00	65.00
May	1.86	2.37	1.49	4.39	12.60	11.60	8.50	63.00	65.00
June	1.75	1.96	1.47	4.43	13.90	12.20	8.50		
July ¹	1.90			5.00	14.50	12.00			
August									
September									

¹ Preliminary prices.

Livestock and products: Marketing year average prices received by farmers, 1996-2000

Marketing year	All hogs per cwt	Beef cattle per cwt ¹	Cows per cwt ²	Steers and heifers per cwt	Milk cows per head ³	Calves per cwt	Market eggs per dozen	All milk wholesale per cwt	Turkeys per pound ⁴
	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
1996	51.40	49.80	31.50	54.60	1,100	51.60	0.623	15.00	
1997	53.10	50.80	35.80	60.60	1,090	54.00	0.560	13.60	
1998	33.90	47.70	34.40	55.40	1,130	51.70	0.496	15.30	
1999	29.80	50.50	35.30	58.70	1,310	68.90	0.420	14.80	0.41
2000	40.70	56.00	38.10	63.60	1,350	102.00	0.420	12.90	0.34

¹ Combined price for "Cows" and "Steers and Heifers."

² Beef cows and cull dairy cows sold for slaughter.

³ Sold for dairy herd replacement only. Prices published January, April, July, and October.

⁴ Data not available prior to 1999.

Livestock and products: Monthly prices received by farmers, 2000-2001

1999-2000 Marketing years	All hogs per cwt	Beef cattle per cwt ¹	Cows per cwt ²	Steers and heifers per cwt	Milk cows per head ³	Calves per cwt	Market eggs per dozen	All milk wholesale per cwt
	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
1999								
December	34.20						0.410	
2000								
January	37.10	54.20	36.00	62.00	1,290	86.00	0.380	12.80
February	39.40	55.50	38.00	63.00		89.00	0.505	12.60
March	40.60	58.20	40.50	65.80		97.00	0.310	12.50
April	45.90	58.40	40.50	66.00	1,400	108.00	0.470	12.60
May	46.00	58.40	40.50	66.00		120.00	0.290	13.00
June	45.40	57.80	41.00	65.00		115.00	0.410	12.90
July	44.90	56.50	40.00	63.50	1,350	105.00	0.370	13.20
August	41.30	54.30	37.50	61.50		100.00	0.490	13.10
September	40.70	55.00	37.50	62.50		107.00	0.390	13.20
October	40.70	54.00	36.50	61.50	1,370	103.00	0.460	12.90
November	35.40	55.20	37.00	63.00		95.00	0.550	12.70
December		55.20	35.00	63.80		90.00		13.20
2000								
December	38.10						0.710	
2001								
January	36.80	57.80	37.50	66.50	1,200	102.00	0.460	13.90
February	38.30	61.10	42.50	69.00		118.00	0.450	13.20
March	44.00	61.20	43.00	69.00		122.00	0.540	14.00
April	45.40	63.40	44.50	71.50	1,400	128.00	0.500	14.60
May	47.20	63.20	45.00	71.00		115.00	0.320	15.40
June	49.30	63.60	45.00	71.50		115.00	0.320	16.20
July ⁴	48.40	61.40	43.50	69.00	1,600	110.00	0.310	16.40
August								
September								
October								
November								
December								

¹ Combined price for "Cows" and "Steers and Heifers."

² Beef cows and cull dairy cows sold for slaughter.

³ Sold for dairy herd replacement only. Prices published January, April, July, and October.

⁴ Preliminary prices.

Farm Marketings

Dry edible beans: Percent of sales by month, 1995-2000

Month	1995-96	1996-97	1997-98	1998-99	1999-00
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
September	26	6	5	30	49
October	11	32	16	12	17
November	8	8	11	6	3
December	8	6	16	10	3
January	7	15	11	20	3
February	5	6	10	5	1
March	6	3	6	3	
April	5	6	6	4	3
May	10	3	5	7	2
June	7	7	5	1	3
July	4	5	5	1	5
August	3	3	4	1	11

Corn: Percent of sales by month, 1995-2000

Month	1995-96	1996-97	1997-98	1998-99	1999-00
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
October	18	5	5	16	20
November	19	22	20	14	19
December	13	12	19	14	8
January	20	15	16	12	15
February	10	9	9	6	4
March	6	6	7	8	7
April	7	5	5	3	4
May	3	3	5	4	4
June	1	5	4	5	4
July	1	6	3	5	4
August	1	6	3	9	6
September	1	6	4	4	5

Hay: Percent of sales by month, 1995-2000

Month	1995-96	1996-97	1997-98	1998-99	1999-00
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
June	12	11	13	13	17
July	9	9	13	13	10
August	6	6	9	9	9
September	3	3	6	6	3
October	6	6	6	6	7
November	4	4	12	5	8
December	7	7	12	6	14
January	8	8	8	7	10
February	14	14	6	11	9
March	15	15	7	11	6
April	12	12	5	9	5
May	4	5	3	4	2

Oats: Percent of sales by month, 1995-2000

Month	1995-96	1996-97	1997-98	1998-99	1999-00
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
July	4	11	7	23	17
August	39	33	39	25	35
September	4	10	7	9	11
October	6	4	2	3	7
November	5	1	2	2	1
December	1	2	2	2	4
January	12	3	1	4	2
February	8	6	4	7	3
March	3	5	11	2	6
April	6	5	15	5	3
May	8	5	4	9	3
June	4	15	6	9	8

Soybeans: Percent of sales by month, 1995-2000

Month	1995-96	1996-97	1997-98	1998-99	1999-00
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
September	9	2	1	12	8
October	41	34	31	34	33
November	8	15	19	8	7
December	7	8	8	9	7
January	14	15	8	8	12
February	6	6	7	5	3
March	4	6	5	7	7
April	5	4	4	5	4
May	3	2	4	2	3
June	1	1	5	4	4
July	1	4	4	3	4
August	1	3	4	3	8

Wheat: Percent of sales by month, 1995-2000

Month	1995-96	1996-97	1997-98	1998-99	1999-00
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
July	38	27	20	30	42
August	26	39	27	12	18
September	5	8	7	21	2
October	7	3	3	4	2
November	8	1	25	3	1
December	3	3	3	6	1
January	6	7	3	5	12
February	5	3	5	3	2
March	1	4	2	6	12
April	1	4	2	3	3
May		1	2	3	2
June			1	4	3

Prices paid by farmers, 1996-2000 ¹

Item	Unit	1996	1997	1998	1999	2000
		<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
Dairy feed, 16% protein ²	Ton	212	190	171	167	184
Hog concentrate, 38-42% protein ²	Ton	393	300	273	288	290
Soybean meal, 44% protein ²	Cwt	16.40	11.50	9.50	10.90	11.00
Gasoline, unleaded, bulk ²	Gallon	1.30	1.16	1.17	1.48	1.48
Diesel fuel ²	Gallon	0.91	0.79	0.76	1.12	1.15
Tractor, 110-129 hp ³	Each	57,400	59,500	60,100	62,400	63,000
Tractor, 200-280 hp, 4-wd ³	Each	111,000	116,000	116,000	120,000	127,000
Planter, row crop, 8-row ³	Each	25,800	25,700	26,000	26,900	28,800
Grain drill, press, 23-25 openers ³	Each	14,400	16,300	15,600	17,500	18,500
Combine, self-prop. w/ grain head, large cap. ³	Each	135,000	140,000	142,000	146,000	152,000
Ammonium nitrate ⁴	Ton	218	179	168	181	243
Muriate of potash 60-62% K ₂ O ⁴	Ton	150	161	166	162	167
Superphosphate, 44-46% P ₂ O ₅ ⁴	Ton	255	248	252	227	229
Anhydrous ammonia ⁴	Ton	314	256	211	231	408
Atrazine, 4#/gallon ³	Gallon	13.80	13.70	13.70	13.60	12.50
Roundup, 4#/gallon EC ³	Gallon	56.70	56.30	45.50	43.30	44.50
Harness, Surpass, 6.4-7#/gallon ³	Gallon	69.20	66.40	68.00	68.40	68.90
Dual, 8#/gallon EC ³	Gallon	69.50	72.60	77.70	82.60	94.50
Captan, 50% WP ³	Pound	3.25	3.36	3.46	3.45	3.61
Ziram, 76% WP ³	Pound	2.98	2.88	2.92	2.72	2.82
Guthion, 50% WP ³	Pound	8.62	8.97	9.20	9.68	9.87
Imiclan, Prolate, 50% WP ³	Pound	5.79	6.22	6.25	6.59	6.98

EC=Emulsifiable concentrate. WP=Wettable powder.

¹ Regional and U.S. data only. Published in April.

² Lake States=MI, MN, WI.

³ United States.

⁴ North Central Region=IL,IN, IA, MI, MN, MO, OH, WI.

Farm production expenses, 1996-2000

Item	1996	1997	1998	1999	2000
	<i>Million dollars</i>				
Feed purchased	381.9	423.0	373.8	327.6	340.6
Livestock and poultry purchased	38.2	41.0	39.2	44.0	50.0
Seed purchased	193.1	226.3	244.4	249.4	260.7
Fertilizers and lime	251.2	281.6	249.9	235.2	243.6
Pesticides	206.2	228.7	228.7	217.9	225.1
Petroleum fuel and oils	138.6	145.5	128.7	124.3	160.2
Electricity	56.3	58.5	56.6	58.3	58.0
Repair and maintenance of capital items	291.8	302.7	308.2	300.2	277.9
Machine hire and custom work	58.5	68.3	77.5	72.5	75.6
Contract and hired labor expenses	477.0	492.4	535.3	515.9	565.8
Marketing, storage, and transportation expenses	107.3	116.8	93.1	113.8	126.8
Capital consumption	532.9	536.4	545.7	573.5	587.9
Real estate and nonreal estate interest	243.4	249.5	254.4	252.8	260.3
Property taxes	211.3	216.0	198.8	184.4	192.4
Net rent received by nonoperator landlords	44.7	52.4	73.6	82.3	67.7
Miscellaneous expenses	346.2	421.5	401.7	430.4	429.5
Total production expenses	3,578.7	3,860.7	3,809.5	3,782.5	3,922.2

Farm Labor

The number of self-employed, unpaid workers, and hired workers rose in 2000. Self-employed workers increased 9 percent to 37,300, unpaid workers rose 5 percent to 11,500, and hired workers rose 3 percent to 25,800. Wage rates for all hired workers increased 7 percent to \$8.77.

Farm workers: Annual average number and hours worked, 1996-2000

Year	Number of workers			Hours worked by hired workers
	Self employed	Unpaid	Hired	
	<i>1,000</i>	<i>1,000</i>	<i>1,000</i>	<i>Hours per week</i>
1996	39.8	10.3	17.8	34.5
1997	38.3	8.5	21.8	36.9
1998	36.8	8.0	23.8	38.6
1999	34.3	11.0	25.1	38.8
2000	37.3	11.5	25.8	38.9

Hired farm workers: Annual average wage rates, 1996-2000

Year	All hired workers	Field workers	Field and livestock workers
	<i>Dollars per hour</i>	<i>Dollars per hour</i>	<i>Dollars per hour</i>
1996	6.96	6.73	6.61
1997	7.14	6.78	6.62
1998	7.87	7.39	7.39
1999	8.21	7.44	7.37
2000	8.77	7.87	7.93

Agricultural Chemical Usage, 2000

The 2000 Chemical Use Summaries for Vegetables and Field Crops provide pesticide data on 16 Michigan vegetables and 3 field crops. Vegetable chemical use statistics are published every other year alternating with fruit chemical use statistics. Sugarbeet statistics are new this year to the Field Crops section. The entire

series of chemical usage statistics since 1990 for Michigan and the U.S. can be found at: <http://www.usda.gov/nass/>
A list of associated trade names is provided following the chemical application tables as an aid in reviewing the data. The list does not mean to imply use of any specific trade name.

Asparagus: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
2, 4-D	19	1.1	1.10	1.28	4.1
Diuron	89	1.7	1.24	2.14	32.5
Glyphosate	76	1.6	0.82	1.36	17.6
Metribuzin	54	1.6	0.47	0.79	7.2
Norflurazon	19	1.6	0.93	1.53	4.9
Paraquat	21	1.2	0.57	0.70	2.6
Simazine	4	1.2	0.80	0.98	0.6
Terbacil	6	1.3	0.46	0.61	0.7
Insecticides					
Carbaryl	90	4.0	0.68	2.74	41.9
Chlorpyrifos	38	1.0	0.88	0.90	5.8
Permethrin	46	3.4	0.09	0.30	2.3
Fungicides					
Chlorothalonil	64	3.6	1.54	5.63	61.5
Mancozeb	40	3.4	1.35	4.62	31.1
Myclobutanil	9	1.4	0.08	0.12	0.2

¹ Planted acres in 2000 were 17,000 acres.

Snap Beans, Fresh: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
EPTC	79	1.2	2.33	2.84	5.2
Metolachlor	72	1.0	1.04	1.04	1.7
Trifluralin	79	1.2	0.54	0.67	1.2
Insecticides					
Carbaryl	(²)	1.6	1.34	2.26	(³)
Esfenvalerate	8	1.8	0.05	0.09	(³)
Fungicides					
Copper hydroxide	20	1.1	0.31	0.36	0.2

¹ Planted acres in 2000 were 2,300 acres.

² Area applied is less than one percent.

³ Total applied is less than 50 lbs.

Cabbage, Fresh: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Metolachlor	10	1.0	1.75	1.75	0.3
Napropamide	12	1.0	1.00	1.00	0.2
Trifluralin	33	1.0	0.86	0.86	0.5
Insecticides					
Bt (Bacillus thur.) ²	36	2.4			
Carbaryl	(³)	2.6	1.02	2.67	(⁴)
Chlorpyrifos	18	1.0	0.64	0.70	0.2
Diazinon	5	2.0	0.51	1.05	0.1
Esfenvalerate	34	1.4	0.04	0.05	(⁴)
Lambda-cyhalothrin	32	2.5	0.02	0.06	(⁴)
Permethrin	8	2.7	0.08	0.23	(⁴)
Spinosad	31	1.9	0.04	0.08	(⁴)
Fungicides					
Chlorothalonil	35	2.3	1.11	2.62	1.6
Copper hydroxide	27	2.0	0.67	1.36	0.7

¹ Planted acres in 2000 were 1,800 acres.

² Rates and total applied are not available because amounts of active ingredient are not comparable between products.

³ Area applied is less than one percent.

⁴ Total applied is less than 50 lbs.

Carrots, Processing: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Fluazifop-P-butyl	100	1.1	0.16	0.19	0.2
Linuron	100	2.4	0.66	1.61	2.0
Insecticides					
Esfenvalerate	71	5.8	0.02	0.15	0.1
Fungicides					
Chlorothalonil	100	4.4	1.22	5.41	6.8

¹ Planted acres in 2000 were 1,260 acres.

Celery: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Linuron	73	1.6	0.37	0.60	0.9
Metolachlor	40	1.0	2.72	2.72	2.2
Prometryn	99	1.5	1.03	1.57	3.1
Insecticides					
Acephate	65	2.1	0.79	1.66	2.2
Azinphos-methyl	42	1.2	0.50	0.62	0.5
Endosulfan	41	1.3	0.68	0.91	0.7
Methomyl	92	3.3	0.57	1.89	3.5
Permethrin	70	3.6	0.12	0.43	0.6
Fungicides					
Chlorothalonil	99	4.1	1.09	4.57	9.0
Copper hydroxide	81	5.5	0.44	2.44	4.0
Propiconazole	26	2.4	0.12	0.29	0.2

¹ Planted acres in 2000 were 2,000 acres.

Sweet Corn, Fresh: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
2, 4-D	2	1.0	0.45	0.45	0.1
Alachlor	20	1.0	1.91	1.91	4.4
Atrazine	84	1.0	1.24	1.24	11.9
Bentazon	7	1.1	0.52	0.58	0.5
Cyanazine	3	1.0	1.38	1.38	0.5
Glyphosate	(²)	1.0	0.88	0.88	0.1
Metolachlor	51	1.6	1.78	2.99	17.5
Pendimethalin	40	1.0	1.55	1.55	7.2
Insecticides					
Carbaryl	6	2.1	1.04	2.21	1.6
Esfenvalerate	48	1.2	0.03	0.04	0.2
Lambda-cyhalothrin	64	2.4	0.03	0.07	0.5
Methomyl	8	3.0	0.40	1.23	1.1
Methyl parathion	38	1.2	0.43	0.55	2.4
Permethrin	43	1.5	0.10	0.14	0.7
Terbufos	14	1.0	1.36	1.36	2.2
Thiodicarb	43	2.2	0.53	1.19	5.9
Fungicides					
Chlorothalonil	37	1.2	0.51	0.64	2.7
Propiconazole	18	1.5	0.11	0.16	0.3

¹ Planted acres in 2000 were 11,500 acres.

² Area applied is less than one percent.

Cucumbers, Fresh: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Bensulide	25	1.0	4.60	4.60	8.1
Clomazone	27	1.0	0.09	0.09	0.2
Ethalfuralin	52	1.0	0.92	0.92	3.3
Insecticides					
Carbaryl	2	1.9	0.99	1.95	0.3
Diazinon	(²)	1.1	0.83	0.96	(³)
Endosulfan	59	2.7	0.52	1.42	5.8
Esfenvalerate	28	1.4	0.03	0.04	0.1
Permethrin	3	1.9	0.18	0.35	0.1
Fungicides					
Benomyl	14	1.3	0.56	0.77	0.8
Chlorothalonil	85	3.0	1.47	4.41	26.2
Copper hydroxide	74	4.7	0.79	3.75	19.4

¹ Planted acres in 2000 were 7,000 acres.

² Area applied is less than one percent.

³ Total applied is less than 50 lbs.

Cucumbers, Pickles: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Clomazone	62	1.1	0.12	0.14	2.8
Ethalfuralin	75	1.1	0.65	0.75	17.4
Naptalam	34	1.3	0.85	1.13	12.0
Insecticides					
Carbaryl	6	3.6	1.00	3.61	7.2
Carbofuran	7	1.0	1.05	1.11	2.3
Esfenvalerate	2	1.2	0.03	0.03	(²)
Fungicides					
Chlorothalonil	20	3.0	0.97	2.97	18.6
Copper hydroxide	19	3.7	0.58	2.18	12.8

¹ Planted acres in 2000 were 31,000 acres.

² Total applied is less than 50 lbs.

Cantaloups: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Bensulide	7	1.0	4.50	4.50	0.2
Ethalfuralin	9	1.0	0.67	0.71	(²)
Trifluralin	8	1.0	0.92	0.92	0.1
Insecticides					
Carbaryl	13	2.9	0.84	2.49	0.3
Endosulfan	23	2.5	0.50	1.27	0.2
Esfenvalerate	14	1.5	0.04	0.06	(²)
Fungicides					
Chlorothalonil	72	4.1	1.37	5.66	3.3
Mancozeb	8	3.5	1.37	4.81	0.3

¹ Planted acres in 2000 were 800 acres.

² Total applied is less than 50 lbs.

Onions, Dry: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Bromoxynil	53	1.2	0.20	0.25	0.5
Fluazifop-P-butyl	90	1.5	0.13	0.19	0.7
Metolachlor	25	1.3	2.07	2.87	2.9
Oxyfluorfen	96	3.8	0.04	0.17	0.7
Pendimethalin	94	2.5	1.51	3.81	14.7
Insecticides					
Chlorpyrifos	37	1.0	2.24	2.24	3.4
Cypermethrin	23	2.6	0.08	0.21	0.2
Lambda-cyhalothrin	84	4.3	0.03	0.11	0.4
Permethrin	15	1.1	0.16	0.19	0.1
Fungicides					
Chlorothalonil	74	2.5	1.19	3.03	9.2
Copper hydroxide	44	2.7	0.52	1.42	2.6
Iprodione	67	2.1	0.61	1.33	3.7
Mancozeb	89	3.6	1.66	6.00	21.9
Metalaxyl	39	1.2	0.12	0.15	0.2

¹ Planted acres in 2000 were 4,100 acres.

Peppers, Bell: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Clomazone	64	1.0	0.47	0.47	0.7
Glyphosate	3	1.3	0.48	0.64	(²)
Metolachlor	11	1.0	0.93	0.93	0.2
Napropamide	9	1.0	1.68	1.68	0.3
Trifluralin	18	1.0	0.84	0.85	0.3
Insecticides					
Acephate	79	2.4	0.71	1.70	3.0
Carbaryl	1	3.2	1.14	3.68	0.1
Esfenvalerate	71	3.8	0.03	0.13	0.2
Metomyl	7	8.3	0.45	3.74	0.6
Permethrin	8	3.3	0.15	0.51	0.1
Fungicides					
Chlorothalonil	3	3.3	0.97	3.24	0.2
Copper hydroxide	75	6.3	0.80	5.09	8.3
Mancozeb	12	7.9	2.00	15.92	4.3
Maneb	65	2.9	1.65	4.89	7.0

¹ Planted acres in 2000 were 2,200 acres.

² Total applied is less than 50 lbs.

Pumpkins: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Bensulide	3	1.0	2.49	2.49	0.4
Clomazone	45	1.0	0.39	0.39	1.0
Ethalfuralin	44	1.0	0.85	0.87	2.1
Sethoxydim	7	1.0	0.22	0.22	0.1
Trifluralin	4	1.0	0.70	0.70	0.1
Insecticides					
Carbaryl	19	2.0	0.73	1.52	1.6
Esfenvalerate	25	2.4	0.04	0.09	0.1
Permethrin	12	1.7	0.12	0.21	0.1
Fungicides					
Benomyl	11	1.7	0.29	0.51	0.3
Chlorothalonil	52	2.7	1.39	3.75	10.7
Copper hydroxide	23	2.2	0.76	1.70	2.1
Metalaxyl	7	1.8	0.13	0.24	0.1
Myclobutanil	29	1.4	0.08	0.11	0.2

¹ Planted acres in 2000 were 5,500 acres.

Squash: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Bensulide	3	1.0	3.81	3.81	0.6
Clomazone	48	1.0	0.24	0.25	0.7
Ethalfuralin	59	1.0	0.83	0.84	2.7
Glyphosate	4	1.0	0.83	0.89	0.2
Insecticides					
Carbaryl	36	1.6	0.73	1.24	2.5
Carbofuran	17	1.0	0.95	1.01	0.9
Diazinon	(²)	2.5	0.50	1.25	0.1
Endosulfan	19	2.4	0.46	1.13	1.2
Esfenvalerate	23	1.6	0.04	0.06	0.1
Permethrin	9	1.8	0.14	0.26	0.1
Fungicides					
Chlorothalonil	49	2.5	1.35	3.43	9.3
Copper hydroxide	26	2.7	0.63	1.74	2.5
Mancozeb	5	3.5	1.47	5.15	1.3
Metalaxyl	21	2.3	0.15	0.34	0.4
Myclobutanil	11	1.7	0.08	0.15	0.1
Triadimefon	2	1.6	0.09	0.14	(³)

¹ Planted acres in 2000 were 5,600 acres.

² Area applied is less than one percent.

³ Total applied is less than 50 lbs.

Strawberries: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
2, 4-D	23	1.4	0.92	1.32	0.4
Glyphosate	4	2.2	2.30	5.16	0.3
Napropamide	40	1.1	2.55	3.04	1.7
Sethoxydim	8	1.4	0.21	0.29	(²)
Terbacil	36	1.3	0.37	0.51	0.3
Insecticides					
Azinphos-methyl	32	2.8	0.48	1.39	0.6
Bifenthrin	10	1.3	0.10	0.13	(²)
Carbaryl	12	1.6	0.96	1.55	0.3
Chlorpyrifos	24	1.5	0.98	1.47	0.5
Diazinon	5	1.0	0.73	0.73	(²)
Endosulfan	54	2.3	0.92	2.17	1.6
Fungicides					
Benomyl	65	4.0	0.46	1.89	1.7
Captain	81	4.4	3.09	13.64	15.5
Copper hydroxide	14	3.3	0.81	2.73	0.5
Iprodione	33	4.3	0.52	2.27	1.1
Thiophanate-methyl	11	2.4	0.82	2.02	0.3
Vinclozolin	5	1.2	0.52	0.68	(²)

¹ Planted acres in 2000 were 1,400 acres.

² Total applied is less than 50 lbs.

Tomatoes, Fresh: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Metribuzin	40	1.0	0.39	0.40	0.4
Napropamide	9	1.0	1.54	1.54	0.4
Trifluralin	29	1.0	0.65	0.65	0.5
Insecticides					
Azinphos-methyl	44	3.9	0.33	1.33	1.5
Carbaryl	6	3.9	1.21	4.78	0.7
Diazinon	2	2.0	0.48	1.00	(²)
Endosulfan	64	3.3	0.50	1.67	2.7
Esfenvalerate	71	3.4	0.03	0.10	0.2
Permethrin	3	2.9	0.11	0.32	(²)
Fungicides					
Azoxystrobin	3	2.4	0.08	0.20	(²)
Chlorothalonil	64	6.1	1.54	9.50	15.2
Copper hydroxide	60	10.3	1.16	11.99	17.8
Mancozeb	60	9.2	1.23	11.44	17.2
Metalaxyl	1	1.7	0.23	0.39	(²)

¹ Planted acres in 2000 were 2,500 acres.

² Total applied is less than 50 lbs.

Tomatoes, Processing: Agricultural chemical applications, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 lbs</i>
Herbicides					
Metribuzin	92	1.3	0.24	0.32	0.9
Insecticides					
Lambda-cyhalothrin	92	3.3	0.02	0.07	0.2
Fungicides					
Azoxystrobin	98	2.5	0.09	0.23	0.7
Chlorothalonil	100	7.0	1.36	9.51	28.5
Copper hydroxide	100	9.5	0.84	8.05	24.1
Other Chemical					
Ethephon		1.1	0.40	0.46	1.2

¹ Planted acres in 2000 were 3,000 acres.

Agricultural chemical applications: Corn, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 pounds</i>
Herbicides:					
2,4-D	9	1.0	0.44	0.44	83
Acetochlor	48	1.0	1.64	1.64	1,721
Altrazine	70	1.1	0.96	1.11	1,705
Bromoxynil	9	1.0	0.46	0.46	94
Clopyralid	10	1.0	0.10	0.10	21
Dicamba	17	1.0	0.18	0.18	68
Flumetsulam	20	1.0	0.05	0.05	23
Glyphosate	15	1.0	0.74	0.74	244
Metolachlor	17	1.1	2.26	2.52	946
Nicosulfuron	8	1.0	0.02	0.02	4
Pendimethalin	18	1.0	0.90	0.90	366
S-Metolachlor	6	1.0	1.05	1.05	138
Rimsulfuron	5	1.0	0.01	0.01	2

¹ Planted acres in 2000 were 2.2 million acres.

Fertilizer applications: Corn, 2000 ¹

Fertilizer	Symbol	Area applied	Applications	Rate per application	Rate per crop year	Total applied
		<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>Million pounds</i>
Nitrogen	N	99	2.0	53	110	240.10
Phosphate	P ₂ O ₅	96	1.0	44	46	96.90
Potash	K ₂ O	83	1.3	65	84	154.30

¹ Planted acres in 2000 were 2.2 million acres.

Agricultural chemical applications: Sugarbeets, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 pounds</i>
Herbicides					
Clopyralid	78	2.5	0.03	0.07	10
Cycloate	3	1.0	3.03	3.03	16
Desmedipham	92	2.0	0.06	0.12	21
Ethofumesate	14	1.5	0.08	0.13	3
Phenmedipham	90	2.0	0.06	0.11	19
Pyrazon	35	1.0	0.97	0.99	66
Quizalofop-ethyl	12	1.3	0.05	0.07	2
Triflusalufuron	87	2.0	0.01	0.01	2
Fungicides					
Benomyl	11	1.0	0.25	0.25	5
Mancozeb	10	1.0	1.44	1.57	30
Tetraconazole	82	1.2	0.10	0.12	18
Triphenyltin hydrox.	23	1.2	0.22	0.27	12

¹ Planted acres in 2000 were 189,000 acres.

Fertilizer applications: Sugarbeets, 2000 ¹

Fertilizer	Symbol	Area applied	Applications	Rate per application	Rate per crop year	Total applied
		<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>Million pounds</i>
Nitrogen	N	100	2.2	60	136	25.7
Phosphate	P ₂ O ₅	98	1.0	61	63	11.7
Potash	K ₂ O	95	1.3	126	175	31.5

¹ Planted acres in 2000 were 189,000 acres.

Agricultural chemical applications: Soybeans, 2000 ¹

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>1,000 pounds</i>
Herbicides					
Cloransulam-methyl	1	1.0	0.03	1.00	1
Glyphosate	76	1.2	0.77	0.98	1,562
Imazamox	1	1.0	0.03	0.03	1
Imazaquin	3	1.0	0.05	0.05	3
Imazethapyr	13	1.0	0.05	0.05	15
Pendimethalin	13	1.0	0.71	0.71	196

¹ Planted acres in 2000 were 2.1 million acres.

Fertilizer applications: Soybeans, 2000 ¹

Fertilizer	Symbol	Area applied	Applications	Rate per application	Rate per crop year	Total applied
		<i>Percent</i>	<i>Number</i>	<i>Pounds per acre</i>	<i>Pounds per acre</i>	<i>Million pounds</i>
Nitrogen	N	37	1.0	13	14	11.1
Phosphate	P ₂ O ₅	40	1.0	53	53	44.8
Potash	K ₂ O	72	1.0	87	87	131.2

¹ Planted acres in 2000 were 2.1 million acres.

Agricultural chemicals: Common and trade names by class

Herbicides		Insecticides	
Common name	Trade name	Common name	Trade name
2, 4-D	several names	Acephate	Orthene, Payload
Acetochlor	Harness, Surpass	Azinphos-methyl	Guthion
Alachlor	Lasso	Bt	several names
Atrazine	AAtrex	Bifenthrin	Brigade, Capture, Talstar
Bensulide	Betasan, Prefar	Carbaryl	Savit, Sevin
Bentazon	Basagran, Laddok	Carbofuran	Furadan
Bromoxynil	Brominal, Buctril	Chloropyrifos	Dursban, Lorsban
Clomazone	Command, Commence	Cypermethrin	Ammo, Cymbush
Clopyralid	Reclaim, Stinger	Diazinon	several names
Cloransulam-methyl	FirstRate	Dimethoate	several names
Cyanazine	Bladex, Conquest, Extrazine	Disulfoton	Di-Syston
Cycloate	Ro-Neet	Endosulfan	Thiodan
Desmedipham	Betamix, Progress	Esfenvalerate	Asana
Dicamba	Banvel, Clarity, Trooper	Lambda-cyhalothrin	Karate, Saber, Warrior
Diuron	Direx, Karmex	Malathion	several names
EPTC	Eptam, Eradicane, Genep	Methomyl	Lannate
Ethalfuralin	Curbit, Sonalan	Methyl parathion	several names
Ethofumesate	Progress	Permethrin	Ambush, Pounce
Fluazifop-P-butyl	Fusilade	Spinosad	SpinTor, Success, Tracer
Flumetsulam	Broadstrike	Terbufos	Counter
Glyphosate	Ranger, Rattler, Rodeo, Roundup	Thiodicarb	Larvin
Imazamox	Raptor		
Imazaquin	Scepter	Fungicides	
Imazethapyr	Passport, Pursuit	Azoxystrobin	Abound, Heritage, Quadris
Linuron	Linex, Lorox	Benomyl	Benlate
Metolachlor	Bicep, Dual	Captan	Captan
Metribuzin	Axiom, Lexone, Sencor	Chlorothalonil	Bravo, Daconil
Napropamide	Devrinol	Copper hydroxide	several names
Naptalam	Alanap	Iprodione	Rovral
Nicosulfuron	Accent	Mancozeb	several names
Norflurazon	Evital, Solicam, Zorial	Maneb	several names
Oxyfluorfen	Goal	Metalaxyl	Ridomil
Paraquat	Cyclone, Gramoxone, Starfire	Myclobutanil	Rally, Nova
Pendimethalin	Prowl	Propiconazole	Banner, Orbit, Tilt
Phenmedipham	Betamix, Spin-Aid	Tetraconazole	Eminent
Prometryn	Caparol	Thiophanate-methyl	Topsin
Pyrazon	Pyramin	Triadimefon	Bayleton
Quizalofop-ethyl	Assure	Triphenyltin hydroxide	several names
Rimsulfuron	Basis, Matrix, Shadeout	Vinclozolin	Ronilan
S-Metolachlor	Dual Magnum		
Sethoxydim	Poast	Other	
Simazine	Princep, Simazine	Ethephon	Cerone, Ethrel, Prep
Terbacil	Sinbar		
Thifensulfuron	Pinnacle		
Trifluralin	Treflan, Trific, Trilin		
Triflusalufuron-methyl	UpBeet		

Commercial fertilizer consumption: 1996-2000 ¹

Item	Year ending June 30				
	1996	1997	1998	1999	2000
	<i>Short tons</i>	<i>Short tons</i>	<i>Short tons</i>	<i>Short tons</i>	<i>Short tons</i>
Primary plant nutrients					
Total N	229,150	275,600	248,102	263,948	249,543
N in multi-nutrients	61,853	64,017	58,790	62,713	57,104
Total P ₂ O ₅	100,462	112,286	92,236	94,890	87,001
P ₂ O ₅ in multi-nutrients	98,261	101,154	90,323	92,063	84,539
Total K ₂ O	222,550	246,467	213,954	211,739	202,481
K ₂ O in multi-nutrients	74,159	77,110	66,246	60,635	47,828
Total plant nutrients	552,162	634,354	554,291	570,576	539,024
Average analysis	44.3	44.5	44.8	43.1	42.9
Total nutrients in multi-nutrients	234,272	242,281	215,360	215,411	189,471
Selected single-nutrient materials					
Ammonium nitrate	7,900	9,401	6,483	9,533	5,622
Anhydrous ammonia	61,777	88,775	71,765	68,349	56,757
Nitrogen solutions	226,868	260,369	269,136	300,761	265,544
Urea	84,740	87,173	88,167	98,820	126,452
Ammonium sulfate	15,093	71,007	20,168	20,468	22,477
Concentrated superphosphate	4,762	5,202	3,961	4,880	4,966
Potassium chloride	237,984	271,868	237,257	244,519	250,410
Multiple-nutrient fertilizers					
N-P-K	418,228	434,859	387,053	388,303	361,992
N-P	109,463	125,241	115,178	124,833	115,616
N-K	28,418	31,768	26,527	27,386	22,281
P-K	9,321	11,435	7,891	5,526	4,561
Leading multiple-nutrient grades					
18-46-0	38,217	42,223	36,974	37,709	34,569
10-34-0	33,995	40,220	35,525	42,668	37,385
10-10-10					14,353
11-52-0	9,107	8,682	14,860	20,069	24,987
19-19-19	18,677	20,139	18,527	21,201	11,564
12-12-12	10,051	11,752	11,512	13,868	32,165
Fertilizer consumption by classes					
Dry bulk single-nutrient	395,402	490,328	401,282	430,931	452,227
Dry bagged single-nutrient	12,918	8,820	9,267	7,581	7,453
Fluid single-nutrient	292,718	369,706	348,333	371,425	324,357
Dry bulk multiple-nutrient	329,203	349,906	293,499	283,761	259,482
Dry bagged multiple-nutrient	167,705	174,006	179,578	187,767	165,491
Fluid multiple-nutrient	68,522	79,392	63,570	76,463	79,476
Organics, secondary and micronutrients	34,463	20,345	38,839	37,943	39,220
Total	1,300,930	1,492,503	1,334,370	1,395,870	1,327,707

¹ Source: The Association of American Plant Food Control Officials

Field Crops

Growing Season Weather Summary

The 2000 growing season will be best characterized as a season of weather contrasts, both in terms of temperature and of precipitation. Lack of moisture was a major concern early in the season following a prolonged period of below normal precipitation over much of the state since the fall of 1998. By climatological standards, a drier than normal pattern this long is extremely unusual in Michigan. This has at least temporarily reversed a long-term regional trend of increasing precipitation (since the 1930's). As a result, soil moisture reserves across the state in April were at their lowest levels since the spring of 1988 and surface/subsurface water levels had fallen well below historical norms. For instance, Great Lakes levels fell to the lowest levels since 1965.

The state was on the northern fringes of a broad area of abnormal dryness stretching from the central Great Plains eastward into the Ohio Valley. In addition to the dry conditions, the early spring season was abnormally mild (among the five warmest February/March periods of the past century), bringing overwintering crops out of dormancy early and warming soils enough to support early spring planting.

With abnormally dry soils across large sections of the central U.S., and with moderate to strong La Nina conditions in the equatorial Pacific, long lead outlooks at the time called for a warmer and drier than normal summer. Unexpectedly, an upper air troughing pattern set up across the Upper Midwest in May and persisted for several weeks. This pattern brought a series of low pressure centers and associated frontal boundaries through the region which led to several rounds of heavy rain. Rainfall totals across Michigan for the month of May ranged from less than 3 inches in northern sections

of the state to more than 8 inches (more than 200 percent of normal rates) at some southern locations. The precipitation eased long-term dryness but led to lengthy planting and fieldwork delays. Some locations exceeded all-time records for maximum monthly precipitation totals.

A shift of the jet stream to a more northwest to southeast configuration across the Great Lakes and New England in June led to a cooler than normal temperature pattern which continued into August. Mean temperatures for July generally ranged from 1-5 degrees F below normal, leading to the coolest July and June-August period since the summer of 1992. Scattered frost and freezing temperatures were reported across the upper and northern Lower Peninsulas during July 19-20, breaking records at some locations for an event so late in the season. By mid-summer, growing degree day accumulations had fallen back (from above normal levels earlier in the season) to below normal levels, slowing crop growth and development, especially in eastern sections of the state.

A return to an upper air ridging pattern across the Midwest during late September and much of October brought warmer, drier weather, which when combined with a later than normal first killing freeze of the fall, allowed many crops slowed by earlier cool temperatures to reach maturity. Overall, for the five-month May-September period, mean temperatures and growing degree day accumulations ranged from near to below normal statewide. Precipitation was highly variable, ranging from below normal totals in northern sections of the state, to much above normal levels in the south.

Field crops: Acres harvested and value of production, 1996-2000

Item	Unit	1996	1997	1998	1999	2000
Acres harvested	1,000 acres	6,695	6,740	6,653	6,730	6,653
Value of production	1,000 dollars	1,723,530	1,892,458	1,503,206	1,569,098	1,464,068

Grain storage capacity, December 1, 1996-2000

Year	Off farm		On farm capacity <i>Million bushels</i>
	Facilities	Rated capacity	
	<i>Number</i>	<i>Million bushels</i>	
1996	292	146	240
1997	289	146	250
1998	286	143	270
1999	270	141	280
2000	250	141	280

Field crops: Record highs and lows

Crop	Unit	Record high		Record low		Year estimates started
		Quantity	Year	Quantity	Year	
Barley						
Harvested acres	1,000 acres	303	1932	16	1974	1866
Yield per acre	Bushels	68.0	1985	13.5	1933	
Production	1,000 bu	8,400	1918	546	1866	
Dry Edible beans						
Harvested acres	1,000 acres	690	1930	170	1988	1909
Yield per acre	Pounds	2,100	1999	320	1917	
Production	1,000 cwt	8,585	1963	1,656	1916	
Corn for grain						
Harvested acres	1,000 acres	2,800	1981	480	1866	1866
Yield per acre	Bushels	130.0	1999	21.5	1917	
Production	1,000 bu	293,180	1982	15,120	1869	
Corn for silage						
Harvested acres	1,000 acres	498	1971	211	1942	1924
Yield per acre	Tons	17.5	1999	4.7	1930	
Production	1,000 tons	5,565	1977	1,542	1930	
Hay, alfalfa						
Harvested acres	1,000 acres	1,444	1950	74	1919	1919
Yield per acre	Tons	4.2	1993	1.1	1934	
Production	1,000 tons	5,040	1985,1986	118	1919	
Hay, all						
Harvested acres	1,000 acres	2,907	1924	780	1866	1866
Yield per acre	Tons	3.8	1993	0.6	1895	
Production	1,000 tons	5,743	1986	1,014	1866	
Oats						
Harvested acres	1,000 acres	1,658	1918	60	1996	1866
Yield per acre	Bushels	67.0	1985,1989	18.5	1921	
Production	1,000 bu	69,388	1946	3,600	1996	
Potatoes						
Harvested acres	1,000 acres	374.0	1895	36.4	1975	1866
Yield per acre	Cwt	315.0	1998,1999,2000	26.0	1887,1916	
Production	1,000 cwt	23,256	1904	3,557	1876	
Soybeans						
Harvested acres	1,000 acres	2,080	2000	1	1930	1924
Yield per acre	Bushels	40.0	1995,1999	8.0	1927	
Production	1,000 bu	77,600	1999	10	1930	
Spearmint						
Harvested acres	1,000 acres	8.7	1954	0.7	1935	1935
Yield per acre	Pounds	47.0	1935	20.0	1965	
Production	1,000 lbs	280	1948	27	1996	
Sugarbeets						
Harvested acres	1,000 acres	190	1999	48	1943	1909
Yield per acre	Tons	21.3	1970	5.5	1916	
Production	1,000 tons	3,534	1999	298	1943	
Wheat, winter						
Harvested acres	1,000 acres	1,515	1953	400	1987	1909
Yield per acre	Bushels	72.0	2000	10.5	1912	
Production	1,000 bu	45,600	1984	7,350	1912	

Barley

Michigan barley growers planted 20,000 acres and harvested 19,000 acres in 2000. This represents a 13 percent decrease in the number of acres planted and a 10 percent decrease in the number of acres of harvested. Total production was 1.14 million bushels, down 18 percent from 1999. The average yield decreased 6 bushels to 60 bushels per acre. Michigan's barley crop advanced to harvest with

favorable weather conditions. Rainfall was well above normal in the Lower Peninsula and temperatures were cooler than normal statewide. Menominee, Delta, Iosco, Tuscola, and Montmorency counties were the top five barley producing counties in the state.

Barley: Acres, yield, production, and value, 1996-2000

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Bushels</i>	<i>1,000 bushels</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1996	28	25	48	1,200	2.40	2,880
1997	25	22	58	1,276	1.90	2,424
1998	27	23	50	1,150	1.50	1,725
1999	23	21	66	1,386	1.70	2,356
2000	20	19	60	1,140	1.10	1,254

¹ Marketing year average.

Corn

Michigan had 2.2 million acres planted to corn in 2000, the same as in 1999. Grain corn production was 244.3 million bushels, down 4 percent from 1999; 1.97 million acres were harvested for grain. The yield of 124 bushels per acre was down 6 bushels from the record high of 1999. Michigan ranked eleventh among states in corn for grain production. Farmers harvested 225,000 acres of corn for silage with an average yield of 14.0 tons per acre.

Planting of corn in Michigan began in earnest the last week of April and progress was ahead of average through the first half of May. Continual rains slowed progress the second half of May, but the crop was planted on schedule, by mid June. Many emerged plants were yellowed by cool soil temperatures and slow emergence. By June 11, about 55 percent of the acres were in good-excellent condition. Michigan's corn crop was about one week behind normal schedule as of September 1. Cumulative growing degree days were

50-150 below normal in major growing areas. Soil moisture was plentiful throughout the major corn for grain areas. Almost 70 percent of the crop was in good-excellent condition. Cool, wet conditions predominated for most of September reducing crop prospects. By October 1 Michigan's corn crop remained behind normal. Over 70 percent of the crop was in good-excellent condition. The Michigan corn harvest was only one-third done by November 1, behind the normal 50 % pace. Harvest neared completion by December 1. About 5 % of the crop remained to be harvested.

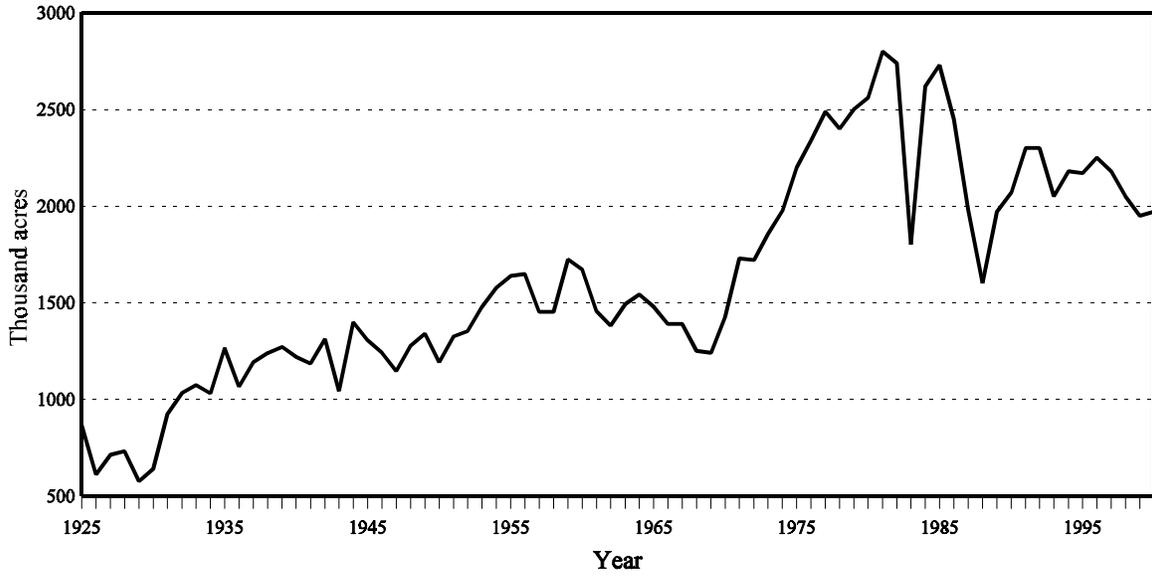
The 2000 corn crop was valued at \$464 million, up 3 percent from 1999. Corn continued to be Michigan's number one crop in value of production. The top five counties in corn production in 2000 were Huron, St. Joseph, Lenawee, Sanilac, and Saginaw.

Corn: Acres, yield, production, and value, 1996-2000

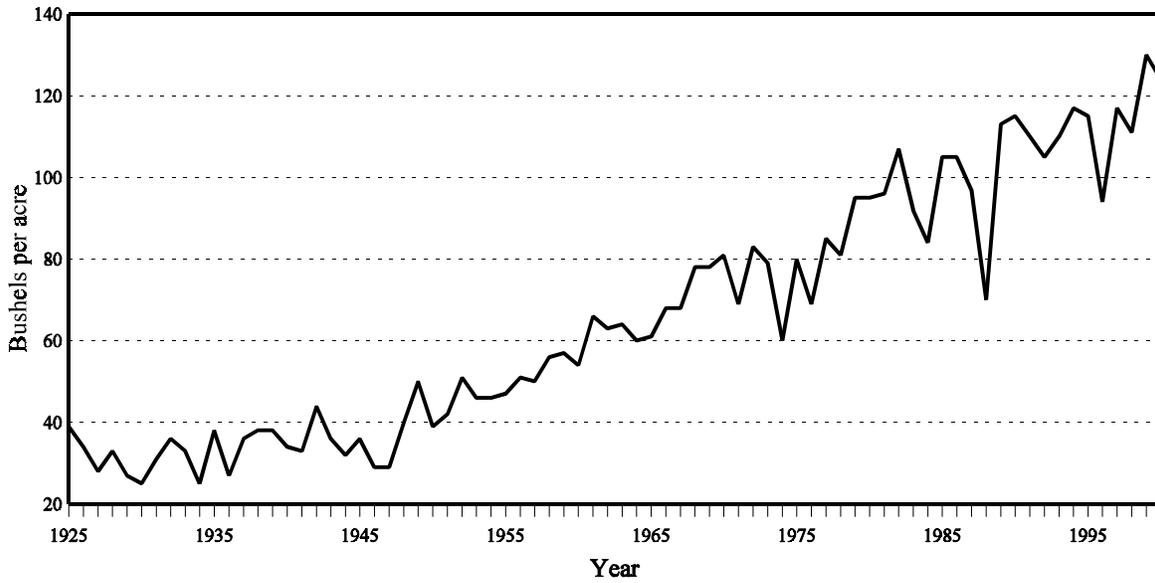
Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Bushels</i>	<i>1,000 bushels</i>	<i>Dollars</i>	<i>1,000 dollars</i>
All						
1996	2,600					
1997	2,500					
1998	2,300					
1999	2,200					
2000	2,200					
Grain						
1996		2,250	94	211,500	2.66	562,590
1997		2,180	117	255,060	2.40	612,144
1998		2,050	111	227,550	1.90	432,345
1999		1,950	130	253,500	1.78	451,230
2000		1,970	124	244,280	1.90	464,132
Silage						
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Tons</i>	<i>1,000 tons</i>		
1996		310	12.5	3,875		
1997		300	14.5	4,350		
1998		240	12.5	3,000		
1999		235	17.5	4,113		
2000		220	14.0	3,080		

¹ Marketing year average.

Corn for grain acres, 1925-2000



Corn yield, 1925-2000



Corn for grain: Stocks by quarter, 1996-2000

Crop year	December 1		March 1		June 1		September 1	
	On farm	Off farm						
	<i>1,000 bushels</i>							
1996	125,000	49,882	65,000	36,842	36,000	16,748	11,000	5,445
1997	150,000	55,615	80,000	53,870	46,000	30,017	22,000	15,223
1998	150,000	59,500	90,000	44,200	58,000	21,000	22,000	13,650
1999	135,000	68,300	95,000	49,700	53,000	30,500	26,000	15,000
2000	145,000	58,200	90,000	46,800	55,000	24,400		

Corn: Percentage of acreage planted, 1996-2000

Year	Month and day					
	April		May			June
	20	30	10	20	30	10
1996	0	0	14	27	65	92
1997	0	15	48	67	88	98
1998	0	20	50	88	96	100
1999	0	5	46	80	94	99
2000	0	3	39	69	84	92
5-year-average	0.0	8.6	39.4	66.2	85.4	96.2

Corn: Percentage of acreage silked, 1996-2000

Year	Month and day					
	July			August		
	1	10	20	30	10	20
1996	0	0	2	19	67	88
1997	0	0	3	33	83	99
1998	0	11	40	79	95	100
1999	0	10	46	88	100	100
2000	0	1	16	31	78	91
5-year-average	0.0	4.4	21.4	50.0	84.6	95.4

Corn: Percentage of acreage dent stage, 1996-2000

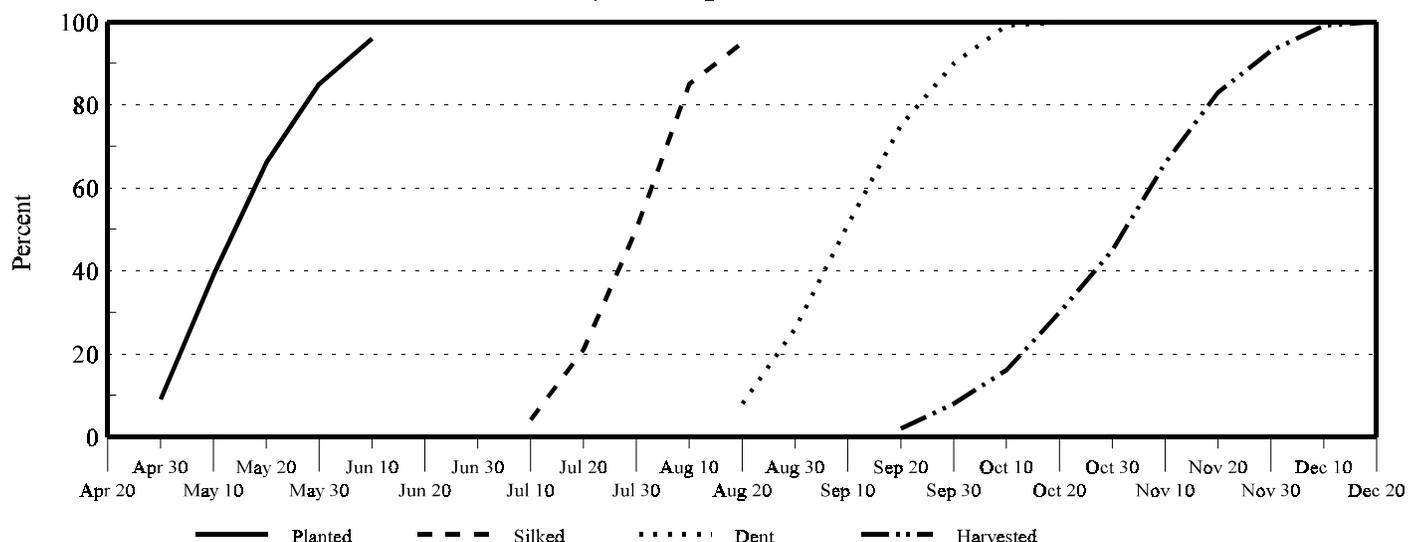
Year	Month and day							
	August			September			October	
	10	20	30	10	20	30	10	
1996	0	0	8	26	57	84	98	
1997	0	0	4	20	55	80	97	
1998	0	19	60	90	94	100	100	
1999	0	17	50	85	97	100	100	
2000	0	3	9	33	73	86	100	
5-year-average	0.0	7.8	26.2	50.8	75.2	90.0	99.0	

Corn: Percentage of acreage harvested for grain, 1996-2000

Year	Month and day									
	September			October			November			December
	10	20	30	10	20	30	10	20	30	10
1996	0	0	2	8	13	28	52	79	92	100
1997	0	0	1	4	7	11	31	62	80	97
1998	0	5	19	32	55	71	87	98	100	100
1999	2	7	13	28	50	76	89	96	99	100
2000	0	0	3	8	24	40	70	81	94	100
5-year-average	0.4	2.4	7.6	16.0	29.8	45.2	65.8	83.2	93.0	99.4

Corn progress

Five-year-average, 1996-2000



Dry Edible Beans

Michigan's 2000 total dry bean production was 4,125,000 hundredweight (cwt) which represents 16% of US production. Michigan ranked second in dry bean production for 2000. The number one dry bean producer in the nation was North Dakota with 7,613,000 cwt.

Michigan dry bean plantings started later than normal due to frequent rainfall. Some replanting was needed but planting did finish ahead of normal. Excessive rain and standing water on July 28-30 damaged substantial acreages. Remaining dry bean acreage had generally well above normal soil moisture levels. Cool, wet

conditions in September slowed crop development. Yields averaged 1,500 pounds per acre, down 600 pounds from the record 1999 crop.

Michigan continues to lead the country in Navy, Cranberry, Black and Light Red Kidney bean production. Michigan dry beans are consumed throughout the world and are largely shipped to the United Kingdom, Japan, France, Mexico, and Italy. Dry Beans are and continue to be an important and valuable commodity to Michigan agriculture.

Dry beans: Acres, yield, production, and value, 1996-2000

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Cwt</i>	<i>1,000 cwt</i>	<i>Dol/cwt</i>	<i>1,000 dollars</i>
1996	340	320	1,450	4,640	21.70	100,688
1997	315	305	1,620	4,941	18.90	93,385
1998	300	295	1,500	4,425	21.60	95,580
1999	350	350	2,100	7,350	16.80	123,480
2000	285	275	1,500	4,125	13.90	57,338

¹ Marketing year average.

Dry edible beans: Acres, yield, and production, by class, 1996-2000

Class and Year	Planted <i>Acres</i>	Harvested <i>Acres</i>	Yield <i>Pounds</i>	Production <i>1,000 cwt</i>
Black				
1996	60	57	1,650	940
1997	80	78	1,790	1,400
1998	135	134	1,570	2,100
1999	108	108	2,090	2,260
2000	55	53	1,580	840
Cranberry				
1996	27	25	1,600	400
1997	32	31	1,680	520
1998	27	26	1,100	285
1999	31	31	1,600	496
2000	26	25	1,520	380
Navy				
1996	210	200	1,400	2,800
1997	150	145	1,580	2,290
1998	75	74	1,600	1,180
1999	150	150	2,300	3,450
2000	125	120	1,500	1,800
Pinto				
1996	9	8	1,500	120
1997	10	10	1,400	140
1998	21	20	1,470	293
1999	9	9	1,890	170
2000	21	20	1,450	290
Red kidney, dark				
1996	11	9	1,110	100
1997	12	12	1,040	120
1998	9	9	1,000	90
1999	9	9	1,700	153
2000	12	12	1,520	182
Red kidney, light				
1996	12	10	1,400	140
1997	14	14	1,640	230
1998	14	13	1,310	170
1999	17	17	1,800	306
2000	19	19	1,500	285
Small, red				
1996	3	3	1,170	35
1997	10	9	1,670	150
1998	11	11	1,820	200
1999	15	15	2,070	310
2000	8	8	1,410	113
Other				
1996	8	8	1,310	105
1997	7	7	1,400	91
1998	8	8	1,340	107
1999	11	11	1,860	205
2000	19	18	1,310	235

Dry edible beans: Stocks in commercial elevators, 1996-2000

Month and Year	Navy	All other	Total
	<i>1,000 cwt</i>	<i>1,000 cwt</i>	<i>1,000 cwt</i>
December 31			
1996	3,400	1,550	4,950
1997	2,850	1,700	4,550
1998	1,400	2,100	3,500
1999	2,900	2,900	5,800
2000	2,800	2,500	5,300
August 31			
1996	1,400	700	2,100
1997	1,530	240	1,770
1998	1,050	180	1,230
1999	210	720	930
2000	1,850	1,750	3,600

Hay and Haylage

Michigan hay production was estimated at 4.3 million tons, down 2 percent from 1999. Alfalfa and alfalfa mixtures accounted for 85 percent of all dry hay produced. All hay harvested acres to 1.3 million, the same as last year. The average all hay yield was 3.33 tons per acre, down 0.07 tons from 1999. Michigan's hay crop benefitted from optimum growing conditions. Ample moisture and

favorable temperatures pushed quality and quantity produced. Supply was so great that some producers left hay in fields. Alfalfa and alfalfa mixtures accounted for 1 million acres of the total with a yield of 3.7 tons per acre. Other hay accounted for 300,000 acres with a yield of 2.1 tons per acre. Value of the hay crop was \$271.4 million, down 21 percent from 1999.

Hay, haylage, and greenchop: Acres, yield, production, and value, 1996-2000

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Tons</i>	<i>1,000 tons</i>	<i>Dollars</i>	<i>1,000 dollars</i>
All dry hay						
1996		1,300	3.22	4,190	106.00	442,895
1997		1,250	3.01	3,760	101.00	378,530
1998		1,250	2.85	3,565	86.00	306,410
1999		1,300	3.40	4,415	69.00	305,805
2000		1,300	3.33	4,330	62.00	271,410
Alfalfa hay						
1996		950	3.60	3,420	108.00	369,360
1997		900	3.40	3,060	103.00	315,180
1998		850	3.30	2,805	90.00	252,450
1999		950	3.80	3,610	72.00	259,920
2000		1,000	3.70	3,700	64.50	238,650
Alfalfa seedings						
1997	160					
1998	95					
1999	100					
2000	140					
Other hay						
1996		350	2.20	770	95.50	73,535
1997		350	2.00	700	90.50	63,350
1998		400	1.90	760	71.00	53,960
1999		350	2.30	805	57.00	45,885
2000		300	2.10	630	52.00	32,760
All haylage and greenchop						
2000		310	5.76	1,785		
Alfalfa haylage and greenchop						
2000		280	6.00	1,680		

¹ Marketing year average.

Hay: Stocks on farms, 1997-2001

Year	May 1	December 1
	<i>1,000 tons</i>	<i>1,000 tons</i>
1997	460	1,993
1998	414	2,093
1999	566	2,110
2000	1,170	2,800

Maple Syrup

Michigan maple syrup production was estimated at 60,000 gallons for the 2001 season, 16,000 gallons above the 2000 record low output. This season was a good year for the production of quality syrup. Sugar content of the sap was higher and the syrup was lighter in color than last year. Over two-thirds of the syrup producers reported that temperatures were favorable during the tapping season. This year's production is 36 percent above the

record low in 2000.

The average price per gallon for 2001 is \$31.40 compared with \$35.10 last year. The preliminary value of production for 2001 is estimated at \$1.9 million, up 22 percent from 2000. Michigan ranked seventh in maple production in 2001, the same as last year, and produced about 6 percent of the total US production.

Maple syrup: Production and price, 1997-2001

Year	Production	Price	Value of production
	<i>1,000 Gallons</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1997	75	31.50	1,913
1998	55	32.00	1,760
1999	73	28.20	2,058
2000	44	35.10	1,544
2001	60	31.40	1,884

Mint

Mint: Acres, yield, production, and value, 1996-2000

Year	Harvested	Yield	Production	Price per pound ¹	Value of production
	<i>1,000 acres</i>	<i>Pounds</i>	<i>1,000 Pounds</i>	<i>Dollars</i>	<i>1,000 dollars</i>
Peppermint					
2000	1.0	50	50	9.00	450
Spearmint					
1996	1.3	21	27	12.20	329
1997	1.5	34	51	11.00	561
1998	1.7	42	71	11.20	795
1999	1.7	40	68	10.00	680
2000	1.7	45	77	9.20	708

¹ Marketing year average.

Oats

Oat acreage decreased in Michigan during 2000. Growers planted 95,000 acres of oats in 2000 compared with 100,000 the year before. Harvested acres, at 75,000, remained the same as last year. The 2000 oat production was 4.80 million bushels, down 2 percent from the previous year. Yields were down 1 bushels per acre from 1999, at 64 bushels per acre. Michigan oat harvest was

completed by the five year average date. Oat condition was 69 percent good to excellent in mid August when growers were well into harvest. The season was cooler and wetter than normal in most of the Lower Peninsula. Sanilac county ranked first in oat production for 2000, while Huron, Presque Isle, Alpena, and Grand Traverse round out the top five counties.

Oats: Acres, yield, production, and value, 1996-2000

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Bushels</i>	<i>1,000 bushels</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1996	70	60	60	3,600	2.41	8,676
1997	95	80	61	4,880	1.86	9,077
1998	110	100	48	4,800	1.42	6,816
1999	100	75	65	4,875	1.35	6,581
2000	95	75	64	4,800	1.20	5,760

¹ Marketing year average.

Potatoes

Michigan's 2000 potato production was 14.96 million hundredweight (cwt.) unchanged from a year ago. Planted acres were 49,000, up 1,000 acres while harvested acres, at 47,500, were unchanged from 1999. The state's average yield remained a record tying 315 cwt. per acre for the third straight year. The spring of 2000 was wet and came late but the weather was quite favorable during the growing season. The weather was also very conducive for late blight development. In some parts of the State, late blight affected almost all growers.

Michigan ranked ninth among states in potato production in 2000. Most Michigan potatoes are whites, which comprise approximately 82 percent of planted acreage, followed by russets and reds which comprise approximately 15 and 3 percent of planted acreage, respectively. Whites are sold for table use or processed for potato chips while russets are used for french fries and other frozen products.

Fall potatoes: Acres, yield, production, and value, 1996-2000

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Cwt</i>	<i>1,000 cwt</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1996	52.0	46.0	300	13,800	5.80	80,040
1997	48.0	47.5	300	14,250	6.45	91,913
1998	47.0	46.5	315	14,648	6.70	98,142
1999	48.0	47.5	315	14,963	6.80	101,748
2000	49.0	47.5	315	14,963	6.85	102,497

¹ Marketing year average.

Fall potatoes: Stocks by type as percent of total stocks, December 1, 1996-2000

Type	1996	1997	1998	1999	2000
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
White	78	72	81	87	86
Russet	19	27	18	11	12
Red	3	1	1	2	2

Fall potatoes: Production and disposition, 1996-2000

Crop year	Production	Total used for seed	Farm Disposition		Sold
			Seed, feed, and home use	Shrinkage and loss	
	<i>1,000 cwt</i>	<i>1,000 cwt</i>	<i>1,000 cwt</i>	<i>1,000 cwt</i>	<i>1,000 cwt</i>
1996	13,800	768	300	1,300	12,200
1997	14,250	864	200	1,300	12,750
1998	14,648	888	200	1,348	13,100
1999	14,963	1,005	213	1,300	13,450
2000	14,963	(¹)	(¹)	(¹)	(¹)

¹ Not available at publication time.

Fall potatoes: Stocks, 1996-2000

Crop year	December 1	January 1	February 1	March 1	April 1	May 1
	<i>1,000 cwt</i>					
1996	8,000	6,600	4,600	3,300	1,900	1,000
1997	8,500	7,000	5,500	3,800	2,300	1,000
1998	9,100	7,500	5,400	4,100	2,200	800
1999	8,800	7,100	5,800	4,200	2,700	1,300
2000	8,700	6,900	5,200	3,400	1,500	700

Soybeans

Michigan soybean production totaled 74.9 million bushels, down 4 percent from 1999. The yield was 36 bushels per acre in 2000. Planted and harvested acres were up from the 1999 total to 2.1 million and 2.08 million, respectively. By June 1, farmers had 77 percent of the soybean acres planted. Soybeans were behind normal for the growing season due to wet conditions. Japanese beetle

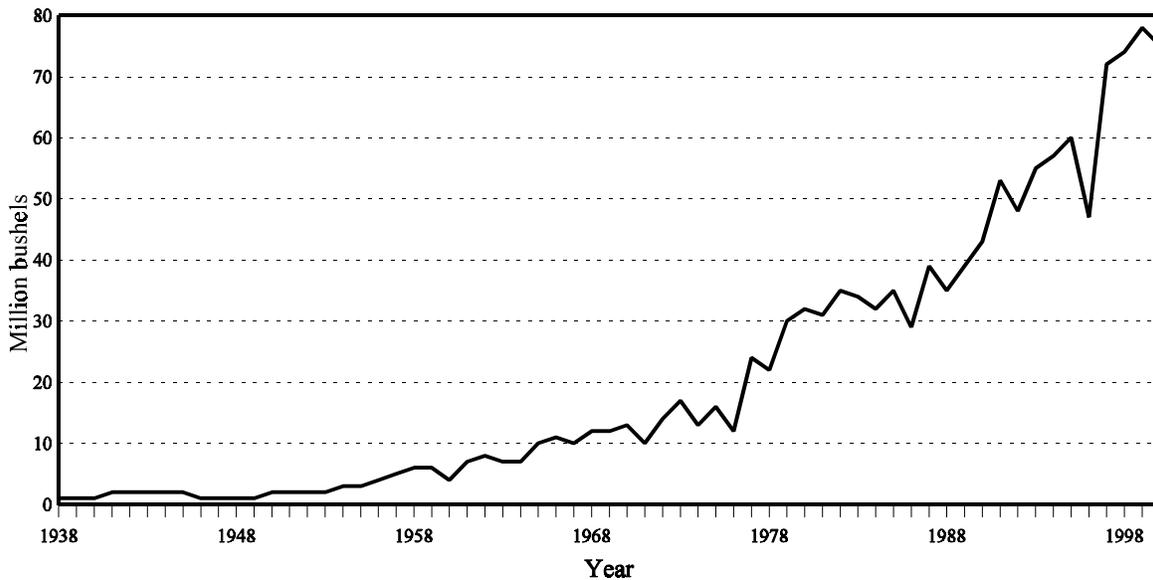
damage in some fields was noticeable. Soybean aphids were reported in most counties. Unfavorable weather condition caused the crop to mature slowly, making it one to two weeks behind normal. Harvest was 96 percent completed on November 19. Lenawee, Sanilac, Monroe, Saginaw, and Tuscola were the top counties in soybean production.

Soybeans: Acres, yield, production, and value, 1996-2000

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Bushels</i>	<i>1,000 bushels</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1996	1,650	1,640	28.5	46,740	7.15	334,191
1997	1,870	1,860	38.5	71,610	6.47	463,317
1998	1,900	1,890	39.0	73,710	4.99	367,813
1999	1,950	1,940	40.0	77,600	4.61	357,736
2000	2,100	2,080	36.0	74,880	4.75	355,680

¹ Marketing year average.

Soybean production, 1938-2000



Soybeans: Stocks by quarter, 1996-2000

Crop year	December 1		March 1		June 1		September 1	
	On farm	Off farm						
	<i>1,000 bushels</i>							
1996	12,000	15,068	7,000	8,642	3,000	2,767	700	865
1997	19,000	20,931	12,000	10,646	4,000	4,677	1,500	1,262
1998	30,000	18,000	22,000	9,950	11,000	5,600	4,000	2,150
1999	33,000	20,200	17,000	12,750	6,000	6,250	4,100	1,500
2000	30,000	19,800	18,000	9,600	8,500	3,450		

Soybeans: Percentage of acreage planted, 1996-2000

Year	Month and day						
	May			June			July
	10	20	30	10	20	30	10
1996	1	7	32	71	77	94	100
1997	5	19	60	84	100	100	100
1998	10	56	81	92	98	100	100
1999	12	49	81	93	99	100	100
2000	12	29	42	63	82	94	100
5-year-average	12.0	29.0	42.0	63.0	82.0	94.0	100.0

Soybeans: Percentage of acreage setting pods, 1996-2000

Year	Month and day					
	July			August		
	10	20	30	10	20	30
1996	0	0	0	20	51	95
1997	0	2	20	53	93	100
1998	0	17	57	73	96	100
1999	0	20	48	77	93	100
2000	0	4	20	42	74	86
5-year-average	0.0	8.6	29.0	53.0	81.4	96.2

Soybeans: Percentage of acreage shedding leaves, 1996-2000

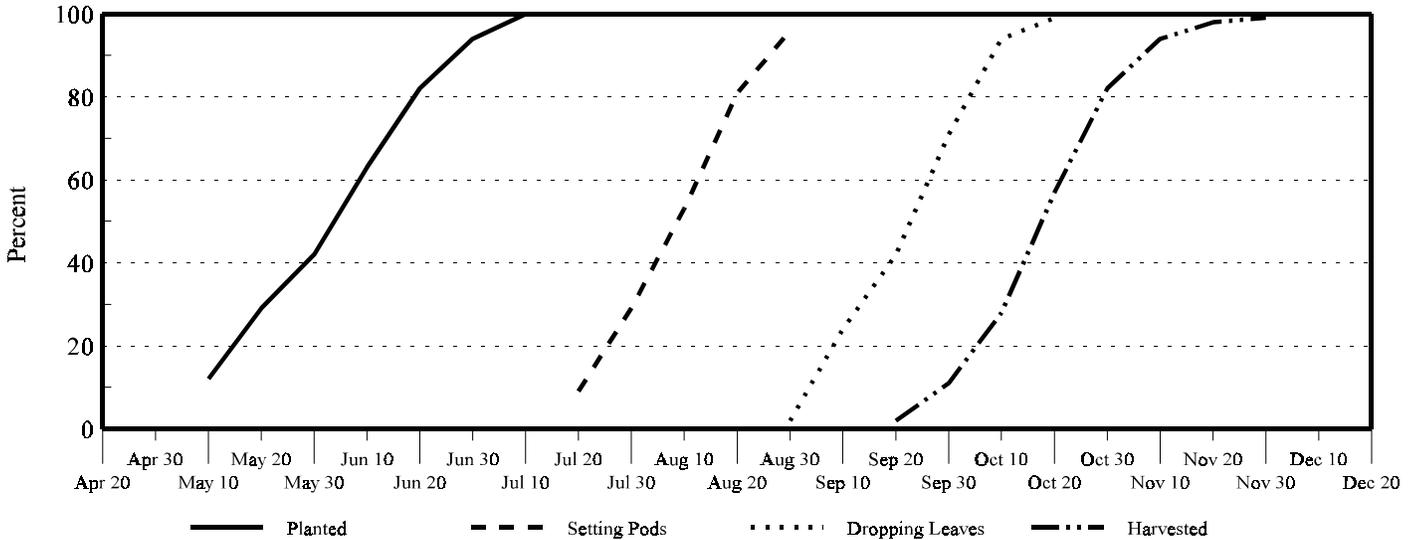
Year	Month and day						
	August		September			October	
	20	30	10	20	30	10	20
1996	0	1	4	20	56	91	100
1997	0	0	7	24	57	98	100
1998	0	9	40	68	87	100	100
1999	0	2	31	66	98	100	100
2000	0	0	3	26	54	78	93
5-year-average	0.0	2.4	24.2	42.2	71.2	93.8	99.0

Soybeans: Percentage of acreage harvested, 1996-2000

Year	Month and day								
	September			October			November		
	10	20	30	10	20	30	10	20	30
1996	0	0	3	11	40	70	93	96	99
1997	0	0	4	25	64	81	90	95	98
1998	0	3	22	44	66	93	99	100	100
1999	0	5	22	46	67	92	98	100	100
2000	0	0	3	15	48	76	92	100	100
5-year-average	0.0	1.6	10.8	28.2	57.0	82.4	94.4	98.2	99.4

Soybean progress

Five-year-average, 1996-2000



Sugarbeets

Acres planted for sugarbeets dropped for the first time in five years in Michigan and decreased 3 percent in 2000 to 189,000 acres planted. Harvested acreage, at 166,000, decreased 13 percent from the previous year record high. Acres idled were attributed primarily to the PIK program. All of the crop was planted by the middle of May. Growing conditions for the sugarbeet crop were excellent.

Some concern for above normal temperatures were reported in November, but soil conditions were near-perfect for this year's crop. Yields averaged 20.5 tons per acre compared with 18.6 tons per acre in 1999. The total tonnage decreased 4 percent from 1999, record high. Huron and Tuscola were the top sugarbeet producing counties for 2000.

Sugarbeets: Acres, yield, production, and value, 1996-2000

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Tons</i>	<i>1,000 tons</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1996	153	130	15.1	1,963	41.60	81,661
1997	163	160	19.0	3,040	38.50	117,040
1998	177	173	16.0	2,768	36.70	101,586
1999	194	190	18.6	3,534	32.80	115,915
2000	189	166	20.5	3,403	(²)	(²)

¹ Marketing year average.

² Not available at publication time.

Wheat

Michigan's 2000 winter wheat crop totaled 36.0 million bushels, down 13 percent from 1999. Planted acres were down 80,000 from the previous year to 530,000. Harvested acreage fell 100,000 from 1999 to 500,000. The average yield was a record high 72 bushels per acre. The value of the crop dropped 14 percent to \$76 million. Sanilac, Huron, Lenawee, Saginaw, and Shiawassee were the top five counties in wheat production.

The planting began on schedule the second week of September. It proceeded unabated by any inclement weather and was virtually

completed by the end of October, the normal time. Emergence was also equal to the 5-year average throughout the warm, dry fall. There was little snow cover during dormancy, but the winter weather was unseasonably warm. Michigan's wheat harvest began around July 4th, a few days behind average. Progress in mid-July, however, was rapid, and combining was virtually complete by the end of the month, ahead of normal. The wheat yield broke the previous record of 69 bushels set just last year.

Winter wheat: Acres, yield, production, and value, 1996-2000

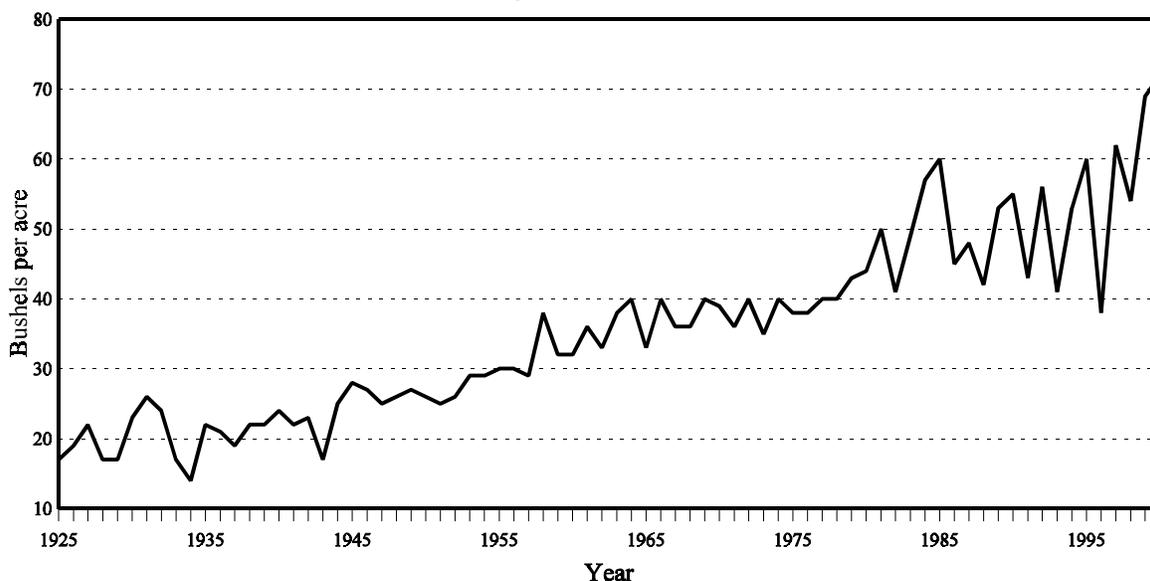
Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Bushels</i>	<i>1,000 bushels</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1996	680	600	38	22,800	3.91	89,148
1997	530	520	62	32,240	3.26	105,102
1998	600	570	54	30,780	2.33	71,717
1999	610	600	69	41,400	2.12	87,768
2000	530	500	72	36,000	2.10	75,600

¹ Marketing year average.

Wheat: Stocks by quarter, 1996-2000

Crop year	September 1		December 1		March 1		June 1	
	On farm	Off farm						
	<i>1,000 bushels</i>							
1996	2,300	12,963	1,300	9,952	800	9,108	400	5,235
1997	2,700	18,750	1,900	16,005	1,200	11,035	500	6,223
1998	6,500	25,200	4,500	21,000	3,000	17,500	1,100	12,000
1999	5,000	31,050	3,000	25,050	2,800	19,450	1,900	12,900
2000	7,000	28,950	4,100	22,400	3,000	17,150	800	11,900

Wheat yield, 1925-2000



Fruit

Warm weather in March and April caused fruit trees to come out of dormancy early only to be followed by a cold wet May that set many fruit crops up for a late frost and disease. Fire blight killed thousands of apple trees in southwestern Michigan. Trees that were not killed had lower yields due to the bacterial epidemic. In northwestern Michigan, spring frosts sharply cut production. The apple crop in the Ridge (Grand Rapids area) was very good. Tart and sweet cherry set was light to moderate due to an early bloom that was limited to two to three days. Cool to moderate temperatures and sufficient moisture during May and early June caused a lighter than usual drop. Blueberry yields were also reduced by a late spring frost. Southwestern peach crop suffered from four days of heavy rains which delayed harvest, causing peaches to rot on trees. Hail damage was also significant. Excessive rain earlier had already caused softness in the fruit and rapid ripening shortened the season, diminishing fresh market prices. The West Central clingstone crop yield was excellent due to timely rains. Although brown rot was a problem here also, the quality was very good. The quality of the grape crop was generally good. The cool weather late in the growing season delayed ripening. Sugar content was down from previous year. Hail diminished the quality and price of fresh market plums in southwestern Michigan. Yields of Stanley plums for processing in northern Michigan were good; quality and yields of Damsons were excellent.

Apple production was 850 million pounds, down from 1.2 billion pounds in 1999. The farm-level value of the crop was 75.9

million dollars, down 27 percent from 1999. The yield estimate was 17,300 pounds per acre. Michigan was third among states in apple output. Washington, New York and California orchardists produced 5.9 billion, 995 million, and 650 million pounds of apples, respectively.

Tart cherry production was 200 million pounds, 71 percent of the national total. The yield in Michigan was 7,020 pounds per bearing acre, up from 6,580 pounds in 1999. Sweet cherry production fell 27 percent from 1999 to 19,600 tons; Washington, Oregon, and California produced 95,000, 37,000, and 47,000 tons, respectively.

Michigan's cultivated blueberry production was 62 million pounds, about one-third of the U.S. total. The farm-level value was over 55 million dollars. Sixty-nine percent of Michigan's blueberries were frozen or canned. New Jersey growers produced 34 million pounds. Strawberry production in Michigan was 9.0 million pounds, the same as in 1999.

Peach production rebounded to 47.5 million pounds in 2000 from 23 million pounds a year earlier. Pear output rose slightly to 5,200 tons from 5,000 tons in 1999. Plum output fell to 3,600 tons from 4,000 tons in 1999.

Grapes production reached a record high 87,200 tons, up from 74,900 tons in 1999. There were 64,500 tons of Concord and 19,100 tons of Niagaras processed. Grapes processed for wine rose fell 2,900 tons in 1999 to 3,100 tons in 2000.

Fruit: Record highs and lows

Crop	Unit	Record high		Record low		Year estimates started
		Quantity	Year	Quantity	Year	
Apples	Million pounds	1,200	1999	53	1945	1889
Blueberries	Million pounds	87	1993	34	1992	1992
Cherries, sweet	Tons	37,500	1978	500	1945	1925
Cherries, tart	Million pounds	380	1964	18	1927	1925
Grapes	Tons	87,200	2000	4,200	1889	1889
Peaches	Million pounds	245	1946	7	1918	1889
Pears	Tons	48,600	1964	2,425	1890	1889
Prunes and plums	Tons	25,000	1971	1,700	1945	1919
Strawberries	1,000 cwt	451	1940	60	1996	1928

Fruit: Acres harvested and value of production, 1996-2000

Item	Unit	1996	1997	1998	1999	2000
Acres harvested	1,000 acres	128	127	127	124	122
Value of production	1,000 dollars	201,979	244,732	205,010	249,791	226,609

Fruit: Acres, production, and value, 1996-2000

Fruit and Year	Bearing acres	Yield	Production		Price	Value of production
			Total	Utilized		
	<i>Acres</i>	<i>Pounds</i>	<i>Million pounds</i>	<i>Million pounds</i>	<i>Dollars per pound</i>	<i>1,000 dollars</i>
Apples						
1996	54,000	13,000	700	700	0.126	88,125
1997	54,000	18,500	1,000	1,000	0.098	98,200
1998	54,000	18,500	1,000	960	0.087	83,200
1999	52,000	23,100	1,200	1,180	0.088	103,465
2000	49,000	17,300	850	845	0.090	75,953
Blueberries ¹						
1996	16,500	2,550	42	42	0.865	36,330
1997	16,500	4,360	72	72	0.695	50,042
1998	16,400	2,990	49	49	0.618	30,260
1999	16,600	4,220	70	70	0.781	54,660
2000	16,700	3,710	62	62	0.889	55,140
Cherries, tart						
1996	29,100	6,700	195	195	0.160	31,202
1997	28,400	7,920	225	221	0.156	34,380
1998	28,400	9,260	263	229	0.140	32,162
1999	28,100	6,580	185	185	0.228	42,134
2000	28,500	7,020	200	200	0.182	36,370
Peaches						
1996	5,300	7,170	38.0	38.0	0.270	10,250
1997	5,000	11,000	55.0	55.0	0.263	14,450
1998	5,000	8,600	43.0	42.5	0.272	11,546
1999	4,600	5,000	23.0	23.0	0.237	5,440
2000	4,800	9,900	47.5	45.5	0.249	11,340
	<i>Acres</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Dollars per ton</i>	<i>1,000 dollars</i>
Cherries, sweet						
1996	7,700	2.86	22,000	22,000	709	15,607
1997	7,800	3.46	27,000	27,000	740	19,986
1998	7,900	4.43	35,000	33,000	562	18,551
1999	7,700	3.51	27,000	26,500	534	14,149
2000	7,600	2.58	19,600	19,600	486	9,520
Grapes						
1996	11,900	5.46	65,000	59,500	228	13,555
1997	12,300	4.96	61,000	61,000	293	17,873
1998	12,300	5.72	70,400	70,400	282	19,820
1999	11,700	6.40	74,900	74,900	281	21,083
2000	12,500	6.98	87,200	87,200	277	24,156
Pears						
1996	1,000	6.00	6,000	6,000	260	1,560
1997	900	4.44	4,000	4,000	250	1,000
1998	900	5.60	5,040	4,800	271	1,302
1999	850	5.88	5,000	4,900	265	1,300
2000	800	6.50	5,200	5,200	270	1,402
Plums						
1996	1,300	1.92	2,500	2,500	335	838
1997	1,150	3.48	4,000	4,000	348	1,390
1998	1,100	3.27	3,600	3,600	300	1,080
1999	900	4.44	4,000	3,750	299	1,120
2000	800	4.50	3,600	3,300	261	861

¹ Harvested acres.

Apples: Stocks in cold and controlled atmosphere storage ¹

Month	Crop year				
	1996	1997	1998	1999	2000
	<i>1,000 pounds</i>				
October	334,000	444,738		525,756	416,923
November	311,766	459,102	405,993	534,061	343,731
December	256,222	365,106	347,729	382,346	294,088
January	188,370	289,519	241,038	357,336	238,013
February	122,010	201,020	177,725	264,771	215,482
March	67,200	118,194	101,682	193,012	160,481
April	33,432	72,368	58,357	127,684	74,928

¹ End-of-month stocks.

Apples: Utilization and price, 1996-2000

Year	Fresh market		Processing		Total	
	Quantity	Price per lb	Quantity	Price per lb	Quantity	Price per lb
	<i>Million pounds</i>	<i>Dollars</i>	<i>Million pounds</i>	<i>Dollars</i>	<i>Million pounds</i>	<i>Dollars</i>
1996	225	0.170	475	0.105	700	0.126
1997	300	0.150	700	0.076	1,000	0.098
1998	320	0.140	640	0.060	960	0.087
1999	370	0.145	810	0.062	1,180	0.088
2000	260	0.147	585	0.064	845	0.090

Apples, processing: Utilization and price, 1996-2000

Year	Canned		Frozen		Juice and cider		Other	
	Quantity	Price per lb	Quantity	Price per lb	Quantity per lb	Price	Quantity	Price
	<i>Million pounds</i>	<i>Dollars</i>						
1996	200	0.110	125	0.125	140	0.080	10	0.085
1997	265	0.090	160	0.096	270	0.052	5	0.060
1998	230	0.073	100	0.086	300	0.041	10	0.050
1999	255	0.072	160	0.082	380	0.045	15	0.060
2000	175	0.080	120	0.085	280	0.045	10	0.080

Blueberries: Utilization and price, 1996-2000

Year	Production		Fresh market		Processed	
	Total	Utilized	Quantity	Price per pound	Quantity	Price per pound
	<i>Million lbs</i>	<i>Million lbs</i>	<i>Million lbs</i>	<i>Dollars</i>	<i>Million lbs</i>	<i>Dollars</i>
1996	42	42	15	1.000	27	0.790
1997	72	72	19	0.988	53	0.590
1998	49	49	16	0.860	33	0.500
1999	70	70	18	1.130	52	0.660
2000	62	62	19	1.250	43	0.730

Cherries, sweet: Production and utilization, 1996-2000

Year	Total production	Utilized production			
		Fresh	Canned	Brined	Other ¹
	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>
1996	22,000	500	1,200	16,800	3,500
1997	27,000	500	800	21,500	4,200
1998	35,000	700	4,700	24,500	3,100
1999	27,000	950	3,900	19,300	2,350
2000	19,600	600	3,000	14,650	1,350

¹ Frozen, juice, etc.

Cherries, tart: Utilization, 1996-2000

Year	Production		Fresh market	Processed		
	Total	Utilized		Canned	Frozen	Other
	<i>Million pounds</i>					
1996	195	195	1	55	135	4
1997	225	221	1	70	145	5
1998	263	229	1	65	150	13
1999	185	185	1	69	100	15
2000	200	200	1	80	110	9

Cherries, tart: Production by region, 1996-2000

Region	1996	1997	1998	1999	2000
	<i>Million pounds</i>				
Northwest	140	140	186	108	109
West Central	35	70	59	48	71
Southwest and other	20	15	18	29	20
Michigan	195	225	263	185	200

Cherries, tart, frozen: Stocks in cold storage, 1997-2000, crop years

Month	East North Central region ¹				48 States total ²			
	1997	1998	1999	2000	1997	1998	1999	2000
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
July	83,634	144,388	141,216	135,748	105,283	169,624	162,135	16,600
August	170,555	139,644	131,875	133,294	194,571	165,591	156,754	160,497
September	144,201	133,436	126,300	115,570	168,173	157,631	149,070	141,514
October	133,493	121,605	114,435	110,116	154,891	143,413	136,220	133,210
November	129,212	112,595	105,799	101,551	148,945	133,236	125,343	122,339
December	118,540	100,308	98,574	95,628	136,297	122,205	116,364	115,042
January	109,747	89,465	88,934	90,593	127,244	108,846	105,384	107,738
February	92,744	82,191	82,887	83,994	106,880	100,498	97,224	98,810
March	80,498	73,785	72,641	75,583	93,271	90,498	84,957	88,595
April	66,823	65,852	67,478	68,465	78,377	79,947	78,475	78,721
May	57,279	58,847	57,753	58,504	67,565	70,786	66,628	66,088
June	53,753	49,763	58,553	50,728	62,012	58,361	61,412	56,785

¹ Illinois, Indiana, Michigan, Ohio, and Wisconsin.

² Excluding Alaska and Hawaii.

Grapes: Utilization, 1996-2000

Year	Fresh market utilization	Processed utilization		Utilized production
		Juice	Wine	
	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>
1996	400	57,500	1,600	59,500
1997	200	58,200	2,600	61,000
1998	400	67,500	2,500	70,400
1999	500	71,500	2,900	74,900
2000	500	83,600	3,100	87,200

Grapes: Processed by variety, 1996-2000

Year	Concord	Niagara	Other
1996	47,500	10,000	1,600
1997	45,200	13,400	2,200
1998	53,800	13,700	2,500
1999	57,300	14,400	2,700
2000	64,500	19,100	3,100

Peaches: Production, utilization and value, 1998-2000

Year	Fresh Market			Processing		
	Production	Price per pound	Value of production	Production	Price per ton	Value of production
	<i>Million lbs</i>	<i>Dollars</i>	<i>1,000 dollars</i>	<i>Million lbs</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1998	31.5	0.315	9,923	11.0	295	1,623
1999	11.0	0.320	3,520	12.0	320	1,920
2000	29.5	0.280	8,260	16.0	385	3,080

Plums: Utilization and value, 1996-2000

Year	Fresh Market			Processing		
	Production	Price per pound ¹	Value of production ¹	Production	Price per ton ¹	Value of production ¹
	<i>Tons</i>	<i>Dollars</i>	<i>1,000 dollars</i>	<i>Tons</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1996	1,250			1,250		
1997	1,500			2,500		
1998	1,200	390	468	2,400	255	612
1999	1,100	440	484	2,650	240	636
2000	1,250	270	338	2,050	255	523

¹ Not available prior to 1998.

Strawberries: Acres, production, price, and value, 1996-2000

Year	Total	Harvested	Yield	Production	Price per cwt	Value of production
	<i>Acres</i>	<i>Acres</i>	<i>Cwt</i>	<i>1,000 cwt</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1996	1,700	1,500	40	60	75.20	4,512
1997	1,600	1,500	65	98	75.60	7,411
1998	1,500	1,400	68	95	74.60	7,089
1999	1,400	1,400	64	90	71.20	6,412
2000	1,400	1,300	69	90	74.60	6,712

Strawberries: Utilization and value, 1996-2000

Year	Fresh Market			Processing		
	Price Production	per cwt	Value of production	Production	Price per cwt	Value of production
	<i>1,000 cwt</i>	<i>Dollars</i>	<i>1,000 dollars</i>	<i>1,000 cwt</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1996	56	78.00	4,368	4	36.00	144
1997	87	80.00	6,960	11	41.00	451
1998	82	79.00	6,478	13	47.00	611
1999	71	78.00	5,538	19	46.00	874
2000	73	81.00	5,913	17	47.00	799

Vegetables

Michigan vegetable growers produced 815,230 tons of fresh and processed vegetables in 2000. Harvested acreage was 123,300 and value of production was \$236 million. Pumpkins, radishes and squash statistics were added to the vegetable commodities covered in Michigan in the 2000 crop year. Nationally, Michigan ranked seventh and sixth in fresh market and processing vegetable sales, respectively.

Most of the state's vegetables are grown in the southern half of the Lower Peninsula. Fresh market produce grown in Michigan is shipped to major markets throughout the nation. The amount of fresh market vegetables produced this year was 8.49 million hundredweight, a 4 percent decrease from 1999 for comparable crops. Many vegetable crops got off to a slow start due to a cool wet

spring. Dry fall conditions helped facilitate harvest. Harvest of vegetables was generally early with no weather problems. The top ten vegetable counties were Oceana, St. Joseph, Van Buren, Allegan, Berrien, Newaygo, Mason, Gratiot, Ottawa, Lenawee, and Macomb. Processed vegetables are used by both in and out-of-state processors. Production amounted to 390,580 tons, an increase of 1 percent from 1999. Michigan was the top state in pickle production.

Dual purpose vegetable acreage is used for both fresh market and processing. Nationally, Michigan ranked third for dual purpose asparagus production. Harvest was slowed and quality reduced due to cool weather conditions in Michigan. Harvest continued until mid-June with few problems.

Vegetables: Record highs and lows

Crop	Unit	Record high		Record low		Year estimates started
		Quantity	Year	Quantity	Year	
Asparagus						
Harvested	1,000 acres	23.0	1989	1.0	1928	1928
Yield	Cwt	31	1947	9	1981	
Production	1,000 cwt	306	1995	17	1928	
Beans, snap (processing)						
Harvested	1,000 acres	27.0	1999	0.8	1921	1918
Yield	Tons	3.89	1998	0.60	1947	
Production	1,000 tons	100,970	1999	0.6	1921	
Carrots						
Harvested	1,000 acres	7.7	1994	0.5	1929	1929
Yield	Cwt	398	1995	155	1957	
Production	1,000 cwt	2,610	1995	132	1936	
Celery						
Harvested	1,000 acres	7.2	1941	1.8	1966,1968	1928
Yield	Cwt	520	1996	174	1935	
Production	1,000 cwt	1,915	1941	576	1966	
Corn, sweet (fresh market)						
Harvested	1,000 acres	15.2	1961	9.0	1988	1949
Yield	Cwt	85	1994,1995,1996,1997	42	1949	
Production	1,000 cwt	1,020	1994	525	1949	
Cucumbers (processing)						
Harvested	1,000 acres	46.3	1949	9.3	1932	1918
Yield	Tons	6.7	1987	0.6	1924	
Production	1,000 tons	180.0	2000	8.9	1932	
Onions						
Harvested	1,000 acres	12.7	1935	4.1	1999	1928
Yield	Cwt	350	1960	120	1935	
Production	1,000 cwt	2,833	1948	852	1928	
Tomatoes (fresh market)						
Harvested	1,000 acres	9.4	1943	2.3	1998	1928
Yield	Cwt	210	1998	60	1959	
Production	1,000 cwt	797	1943	204	1988	
Tomatoes (processing)						
Harvested	1,000 acres	9.7	1982	1.0	1921	1918
Yield	Tons	36.0	1998	2.7	1943	
Production	1,000 tons	205	1982	5	1921	

Vegetables: Acres harvested and value of production, 1996-2000

Item	Unit	1996	1997	1998	1999	2000 ¹
Acres harvested	1,000 acres	114	113	107	114	123
Value of production	1,000 dollars	173,465	170,356	183,399	177,903	236,492

¹ Includes crops for which no data were available before 2000.

Principal vegetables, fresh market: Acres, production, and value, 1996-2000

Year	Planted	Harvested	Production	Value
	<i>Acres</i>	<i>Acres</i>	<i>1,000 cwt</i>	<i>1,000 dollars</i>
1996	60,600	55,600	8,154	124,626
1997	59,900	56,950	8,034	123,086
1998	56,600	53,550	7,307	136,522
1999	56,500	54,000	7,378	124,282
2000 ¹	69,700	64,850	8,493	173,902

¹ Includes crops for which no data were available before 2000.

Principal vegetables, processing: Acres, production, and value, 1996-2000

Year	Planted	Harvested	Production	Value
	<i>Acres</i>	<i>Acres</i>	<i>Tons</i>	<i>1,000 dollars</i>
1996	62,000	58,500	420,240	48,839
1997	57,900	56,400	394,500	47,270
1998	55,000	53,300	345,740	46,877
1999	61,500	59,900	390,370	53,621
2000	60,760	58,450	390,580	62,590

Vegetables, processing: Acres, production, and value, 1996-2000¹

Item and Year	Planted	Harvested	Yield	Production	Price	Total Value
	<i>Acres</i>	<i>Acres</i>	<i>Tons</i>	<i>Tons</i>	<i>Dollars</i>	<i>1,000 dollars</i>
Carrots						
1996	1,700	1,600	23.00	36,800	65.10	2,396
1997	1,600	1,500	25.00	37,500	62.40	2,340
1998	1,700	1,600	19.00	30,400	59.40	1,806
1999	1,600	1,500	26.00	39,000	67.60	2,636
2000	1,260	1,250	28.00	35,000	68.80	2,408
Cucumbers						
1996	28,000	26,000	5.30	137,800	156.00	21,497
1997	27,000	26,000	5.20	135,200	152.00	20,550
1998	27,000	26,000	5.00	130,000	169.00	21,970
1999	27,000	26,500	6.00	159,000	164.00	26,076
2000	31,000	30,000	6.00	180,000	215.00	38,700
Snap beans						
1996	22,000	21,000	3.30	69,300	164.00	11,365
1997	23,200	22,800	3.45	78,660	171.00	13,451
1998	21,500	21,000	3.89	81,600	171.00	13,973
1999	28,000	27,000	3.74	100,970	166.00	16,765
2000	25,500	24,400	3.75	91,580	160.00	14,678
Tomatoes						
1996	4,600	4,400	32.50	143	73.70	10,539
1997	4,300	4,300	31.00	133	73.30	9,771
1998	2,600	2,500	36.00	90	84.00	7,560
1999	2,900	2,900	30.00	87	84.00	7,308
2000	3,000	2,800	30.00	84	81.00	6,804

¹ Cabbage for sauerkraut and green peas are not published to avoid disclosure of individual operations.

Vegetables, fresh market: Acres, production, and value, 1996-2000

Item and year	Planted	Harvested	Yield	Production	Price	Value ¹
	<i>Acres</i>	<i>Acres</i>	<i>Cwt</i>	<i>1,000 cwt</i>	<i>Dollars per cwt</i>	<i>1,000 dollars</i>
Beans, snap						
1996	1,700	1,500	40	60	38.20	2,292
1997	1,700	1,600	45	72	29.80	2,146
1998	2,200	2,100	60	126	61.00	7,686
1999	2,200	2,200	40	88	31.00	2,728
2000	2,300	2,000	42	84	25.00	2,100
Cabbage						
1996	1,800	1,700	310	527	9.00	4,743
1997	1,900	1,900	260	494	7.80	3,853
1998	1,800	1,700	260	442	13.30	5,879
1999	1,900	1,800	280	504	8.60	4,334
2000	1,800	1,700	250	425	12.80	5,440
Cantaloups						
1996	1,000	800	90	72	17.00	1,224
1997	1,000	950	150	143	19.80	2,831
1998	800	750	150	113	19.00	2,147
1999	800	700	140	98	17.30	1,695
2000	800	750	140	105	15.30	1,607
Carrots						
1996	6,000	4,500	280	1,260	13.40	16,884
1997	5,500	5,300	250	1,325	12.50	16,563
1998	4,700	4,600	290	1,334	13.10	17,475
1999	4,700	4,700	280	1,316	10.70	14,081
2000	4,700	4,500	280	1,260	13.40	16,884
Corn, sweet						
1996	12,500	10,500	85	893	17.00	15,181
1997	12,500	11,500	85	978	17.80	17,048
1998	11,000	10,000	75	750	17.20	12,900
1999	11,500	10,600	70	742	17.90	13,282
2000	11,500	10,600	70	742	18.10	13,430
Cucumbers						
1996	5,700	5,500	200	1,100	15.20	16,720
1997	6,500	6,400	200	1,280	14.10	18,048
1998	7,000	6,500	190	1,235	17.30	21,336
1999	7,000	6,600	220	1,452	15.50	22,506
2000	7,000	6,700	200	1,340	18.80	25,192
Onions						
1996	6,200	5,800	310	1,798	10.80	15,541
1997	5,000	4,900	320	1,568	8.90	11,170
1998	4,500	4,200	260	1,092	11.00	9,614
1999	4,100	4,000	270	1,080	10.00	8,640
2000	4,100	3,500	270	945	12.50	9,450
Radishes						
2000	2,700	2,500	70	175	27.20	4,760
Tomatoes						
1996	2,600	2,400	180	432	24.20	10,454
1997	3,000	2,500	160	400	24.20	9,680
1998	2,500	2,300	210	483	38.50	18,596
1999	2,800	2,600	190	494	33.50	16,549
2000	2,500	2,400	170	408	44.40	18,115

¹ Onions = Value of sales.

Vegetables, dual purpose: Acres, production, and value, 1996-2000

Item and year	Planted	Harvested	Yield	Production	Price per cwt	Value
	<i>Acres</i>	<i>Acres</i>	<i>Cwt</i>	<i>1,000 cwt</i>	<i>Dollars</i>	<i>1,000 dollars</i>
Asparagus						
1996	18,000	17,500	17	298	67.50	20,110
1997	18,000	17,500	15	263	67.70	17,972
1998	17,500	17,000	16	278	62.30	17,320
1999	17,000	16,500	18	297	63.40	18,822
2000	17,000	16,500	17	283	63.90	18,075
Celery						
1996	2,500	2,300	520	1,196	11.10	13,294
1997	2,500	2,300	470	1,081	13.30	14,358
1998	2,300	2,200	470	1,034	12.90	13,327
1999	2,000	1,900	450	855	12.90	11,005
2000	2,000	1,900	500	950	13.00	12,369
Peppers, bell						
1996	2,100	2,000	200	400	18.40	7,360
1997	1,800	1,700	220	374	20.90	7,817
1998	1,900	1,800	200	360	24.00	8,640
1999	2,100	2,000	200	400	24.00	9,600
2000	2,200	2,100	220	462	22.50	10,395
Pumpkins						
2000	5,500	4,400	160	704	38.00	26,752
Squash						
2000	5,600	5,300	115	610	15.30	9,333

Asparagus: Disposition and value, 1996-2000

Year	Fresh market			Processing		
	Production	Price per cwt	Value of production	Production	Price per ton	Value of production
	<i>1,000 cwt</i>	<i>Dollars</i>	<i>1,000 dollars</i>	<i>Tons</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1996	33	79.00	2,607	13,260	1,320	17,503
1997	39	80.00	3,120	11,200	1,310	14,672
1998	36	65.00	2,340	12,080	1,240	14,980
1999	34	74.00	2,516	13,150	1,240	16,306
2000	41	69.00	2,829	12,100	1,260	15,246

U.S. Pickle stocks in tanks, barrels, and fresh pack, December 1, 1999-2000

Year	From current year crop			From previous year crop		Total stocks
	Salt stock including dill	Fresh pack	Refrigerated	Salt stock including dill	Fresh pack	
	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>
1999	310,422	109,171	6,295	26,557		452,445
2000	192,647	42,642	1,449	141,556	9,250	387,544

Mushrooms

During the 1999-2000 marketing year, Michigan growers sold 11.6 million pounds of Agaricus (white button) mushrooms compared with 10.1 million pounds the previous year. Michigan was seventh behind Pennsylvania, California, Florida, Indiana, Washington, and Ohio. Growers in the State used 2.8 million square

feet of bed and tray space. The price per pound averaged \$1.28, up 8 cents from the 1998-99 season and the highest price on record. Total value of sales increased to \$14.9 million, \$2.8 million higher than last season.

Agaricus mushrooms: Area, sales, price, and value, 1995-2000 ¹

	Area ²	Sales	Price	Value
	<i>1,000 sq ft</i>	<i>1,000 lbs</i>	<i>Dol/lb</i>	<i>1,000 dollars</i>
1995-96	2,595	14,414	1.100	15,818
1996-97	2,572	13,638	1.080	14,679
1997-98	2,760	14,731	1.150	17,014
1998-99	2,767	10,106	1.200	12,141
1999-00	2,767	11,637	1.280	14,923

¹ Marketing year begins July 1 and ends June 30 of the following year.

² Total fillings.

Horticulture

Michigan placed third nationally in value of wholesale sales of floriculture products in 2000. Only California and Florida reported larger sales than Michigan. Reports from Michigan's 726 commercial growers (\$10,000 or more in gross sales) showed an estimated wholesale value of \$300.7 million for all surveyed floriculture crops, up 30 percent from last year. This estimate includes summarized sales data as reported by growers with \$100,000 or more in sales plus a calculated wholesale value of sales for operations with sales from \$10,000 to \$99,999. The leading crop category breakdowns for Michigan operations with more than \$100,000 in sales were:

First, **annual bedding/garden plants** with \$148 million in sales.

Second, **propagative materials** with \$49 million in sales.

Third, **herbaceous perennial plants** with \$43 million in sales.

Fourth, **potted flowering plants** with \$32 million in sales.

Michigan leads the nation in value of sales for 8 floriculture crops:

■ **Herbaceous Perennial Plants (unfinished)** valued at \$40 million.

■ **Potted Geraniums (seed)** with 17.7 million pots sold, valued at \$13.6 million.

■ **Potted Hosta** with 3.2 million pots sold, valued at \$9.5 million.

■ **Marigolds Flats** with 784,000 flats sold, valued at \$5.4

million.

■ **New Guinea Impatiens Hanging Baskets** with 607,000 baskets sold, valued at \$3.9 million.

■ **Geranium from Seed (flats)** with 219,000 flats sold, valued at \$1.8 million.

■ **Begonia Hanging Baskets** with 261,000 baskets sold, valued at \$1.5 million.

■ **New Guinea Impatiens Flats** with 125,000 flats sold, valued at \$1.0 million.

Other notable Michigan crops that ranked second in value of sales nationally were:

■ **Geranium Hanging Baskets (cuttings)** with 485,000 baskets sold, valued at \$3.1 million.

■ **Marigold** with 182,000 pots sold, valued at \$2.2 million.

■ **Pansy/Viola Hanging Baskets** with 36,000 baskets sold, valued at \$2.0 million.

■ **Impatiens Hanging Baskets** with baskets sold, valued at \$2.0 million

■ **Petunia Hanging Baskets** with 251,000 baskets sold, valued at \$1.2 million.

Total covered area for all operations in the state increased 4 percent to 42.3 million square feet. This includes both rigid and film plastic greenhouses, glass greenhouses, shade, and temporary cover. Only California and Florida have more total cover.

Floriculture crops: Number of growers by gross value of sales, 1996-2000

Year	\$10,000- \$19,999	\$20,000- \$39,000	\$40,000- \$49,000	\$50,000- \$99,999	\$100,000- \$499,999	\$500,000 or more	Total growers
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
1996	36	62	30	116	191	125	560
1997	76	105	52	127	255	135	750
1998	77	111	45	139	263	111	746
1999	78	82	49	190	222	117	738
2000	65	86	92	163	240	130	726

Floriculture crops: Growing area by type of cover, 1996-2000

Year	Glass greenhouses	Fiberglass and other rigid greenhouses	Plastic film greenhouses	Total greenhouse cover	Shade and temporary cover	Total covered area	Open ground
	<i>1,000 square feet</i>	<i>1,000 square feet</i>	<i>1,000 square feet</i>	<i>1,000 square feet</i>	<i>1,000 square feet</i>	<i>1,000 square feet</i>	<i>Acres</i>
1996	4,319	3,444	25,564	32,324	800	33,124	1,797
1997	4,420	3,467	29,791	37,678	665	38,343	2,414
1998	4,515	3,643	33,174	41,332	836	42,168	2,298
1999	4,487	3,736	31,585	39,808	949	40,757	2,205
2000	4,454	4,079	32,621	41,154	1,106	42,260	3,579

Floriculture crops: Wholesale value of sales by category, 1996-2000

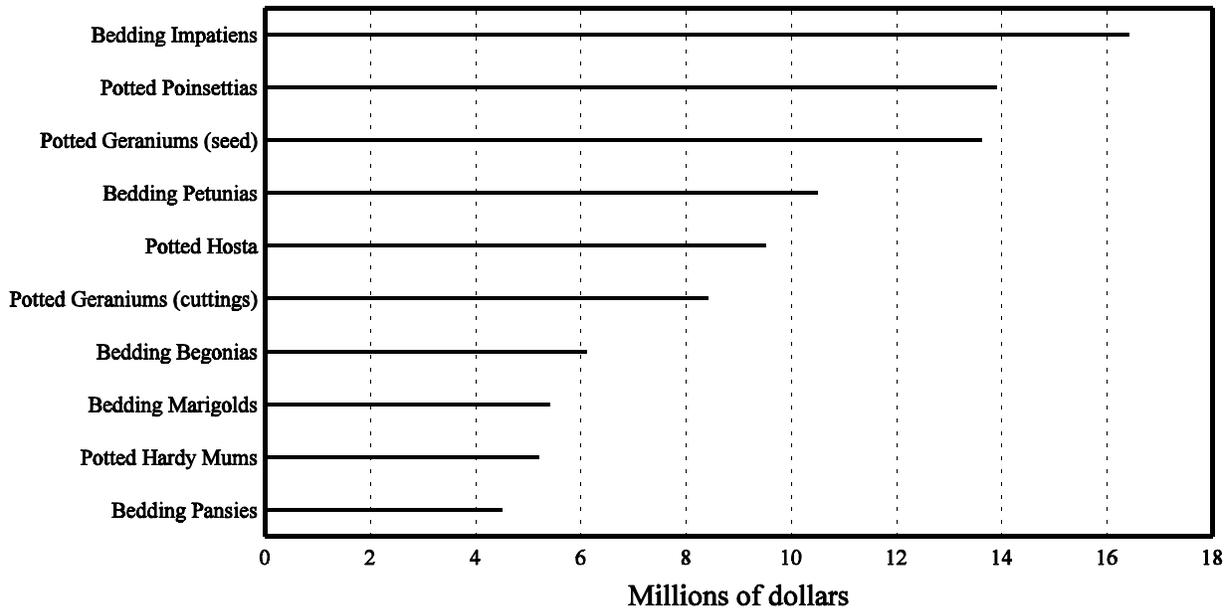
Year	Total cut flowers	Total potted flowering plants	Total foliage for indoor or patio use	Total bedding/garden plants	Total wholesale value of reported crops ¹	Expanded wholesale value of reported crops ²
	<i>1,000 dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>
1996	10,388	27,442	3,712	131,250	172,803	185,253
1997	11,514	26,477	3,313	153,877	195,229	211,384
1998	8,551	27,621	3,056	172,615	211,509	228,444
1999	4,995	27,828	2,996	175,988	211,807	231,939
2000	7,610	32,310	3,493	190,526	282,929	300,652

¹ Total data for 1999 and 2000 are not comparable; total sales of propagative material were added in 2000.

² Wholesale value of sales as reported by growers with \$100,000 or more in sales of floriculture crops plus a calculated wholesale value of sales for growers with sales below \$100,000. The value of sales for growers below the \$100,000 level was estimated by multiplying the number of growers in each size group by the midpoint of each dollar range.

Selected Floriculture Crops, 2000

Value of Sales



Bedding plants: Producers, quantity sold, price, and value, 1996-2000

Item	Producers	Quantity sold	Percent of sales at wholesale	Wholesale price	Value of sales at wholesale
	<i>Number</i>	<i>1,000 flats</i>	<i>Percent</i>	<i>Dollars</i>	<i>1,000 dollars</i>
Begonias					
2000	199	847	83	7.15	6,056
Geraniums					
1996	93	325	81	10.07	3,273
1997	117	394	85	9.26	3,648
1998	97	783	94	7.02	5,497
1999	99	757	88	8.28	6,268
2000					
Geraniums from cuttings					
2000	43	292	78	6.21	1,813
Geraniums from seed					
2000	50	219	93	8.11	1,776
Impatiens					
1996	219	2,376	86	6.26	14,874
1997	270	2,565	87	6.37	16,339
1998	269	3,314	81	5.88	19,486
1999	249	2,912	82	6.47	18,841
2000	251	2,403	83	6.81	16,364
Marigolds					
2000	204	784	89	6.88	5,394
New Guinea Impatiens					
1996	45	99	93	9.99	989
1997	48	65	53	12.27	798
1998	36	86	85	8.25	710
1999	58	151	84	9.21	1,391
2000	46	125	91	8.21	1,026
Pansies/Violas					
2000	195	679	90	6.67	4,529
Petunias					
1996	223	1,383	84	6.36	8,796
1997	269	1,522	87	6.84	10,410
1998	272	1,787	79	5.96	10,651
1999	250	1,651	85	6.35	10,484
2000					
Other flowering and foliar					
1996	241	5,824	86	6.87	40,011
1997	296	6,561	87	6.69	43,893
1998	291	7,152	84	5.83	41,696
1999	259	7,683	88	6.36	48,864
2000	258	4,454	85	6.87	30,599
Vegetables ¹					
1996	216	763	82	6.08	4,639
1997	254	1,026	87	6.15	6,310
1998	189	1,008	72	6.69	6,744
1999	210	827	85	6.69	5,533
2000	218	720	83	6.99	5,033

¹ Does not include vegetable transplants grown for commercial use.

Hanging baskets: Producers, quantity sold, price, and value, 1996-2000

Item	Producers	Quantity sold	Percent of sales at wholesale	Wholesale price	Value of sales at wholesale
	<i>Number</i>	<i>1,000 baskets</i>	<i>Percent</i>	<i>Dollars</i>	<i>1,000 dollars</i>
Begonias					
2000	148	261	83	5.61	1,464
Geraniums					
1996	228	458	78	6.19	2,835
1997	269	528	80	6.02	3,179
1998	230	497	71	6.46	3,211
1999	240	685	67	6.41	4,391
2000					
Geraniums from cuttings					
2000	211	485	73	6.39	3,099
Geraniums from seed					
2000	23	58	70	5.85	339
Impatiens					
1996	204	345	82	5.31	1,832
1997	246	498	85	4.62	2,301
1998	210	406	76	4.9	1,989
1999	218	438	79	4.94	2,164
2000	195	411	85	4.95	2,034
Marigolds					
2000	5	2	94	5.89	12
New Guinea Impatiens					
1996	208	442	84	6.15	2,718
1997	250	566	86	6.29	3,560
1998	233	574	80	6.28	3,605
1999	229	727	73	6.41	4,660
2000	226	607	82	6.45	3,915
Pansies/Violas					
2000	30	36	96	5.65	203
Petunias					
1996	166	110	79	5.6	616
1997	202	185	82	5.07	938
1998	183	164	76	5.12	840
1999	210	252	80	5.27	1,328
2000	178	251	85	4.96	1,245
Other flowering					
1996	253	1,348	84	5.64	7,603
1997	297	1,675	85	5.61	9,397
1998	244	1,465	71	6.12	8,966
1999	262	1,935	85	5.92	11,455
2000	189	1,346	82	5.95	8,009
Foliage					
1996	56	435	95	3.77	1,640
1997	68	408	95	4.18	1,705
1998	47	253	90	4.57	1,156
1999	55	315	93	5.06	1,594
2000	64	299	93	5.54	1,656

Herbaceous perennials: Producers, quantity sold, price, and value, 2000

Item	Producers	Quantity sold				Percent of sales at wholesale	Wholesale price			Value of All sales at wholesale
		Less than 1 gallon	1 to 2 gallon	2 gallon and larger	Total		Less than 1 gallon	1 to 2 gallon	2 gallon and larger	
	<i>Number</i>	<i>1,000 pots</i>	<i>1,000 pots</i>	<i>1,000 pots</i>	<i>1,000 pots</i>	<i>percent</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>1,000 dollars</i>
Hosta										
2000	106	996	2,120	40	3,156	95	2.75	3.03	7.21	9,451
Other										
2000	131	15,797	3,397	251	19,356	94	0.92	3.66	6.05	27,946

Potted flowering and annual bedding plants: Producers, quantity sold, price, and value, 1996-2000

Item	Producers	Quantity sold			Percent of sales at wholesale	Wholesale price		Value of sales at wholesale
		Less than 5 inch pots	5 inch pots or larger	Total		Less than 5 inch pots	5 inch pots or larger	
	<i>Number</i>	<i>1,000 pots</i>	<i>1,000 pots</i>	<i>1,000 pots</i>	<i>Percent</i>	<i>Dollars</i>	<i>Dollars</i>	<i>1,000 dollars</i>
Azaleas								
1996	47	53	167	220	81	2.01	6.74	1,232
1997	49	41	179	220	87	1.86	6.65	1,267
1998	39	19	164	183	85	3.14	6.81	1,177
1999	34	16	149	165	84	3.27	7.12	1,113
2000	36	31	116	147	83	3.16	7.20	933
Begonias								
2000	65	442	31	473	66	0.89	1.92	453
Chrysanthemums, florist								
1996	46	175	569	744	96	1.28	4.21	2,619
1997	46	125	580	705	95	1.57	3.98	2,505
1998	41	100	458	558	95	1.49	3.91	1,940
1999	41	153	434	587	93	1.42	3.88	1,901
2000	38	127	320	447	87	1.69	3.87	1,453
Chrysanthemums, hardy garden								
1996	119	603	1,493	2,096	93	0.80	2.02	3,498
1997	149	574	2,221	2,765	90	0.80	1.96	4,812
1998	139	637	2,294	2,931	86	0.91	1.74	4,571
1999	131	828	2,692	3,520	93	0.99	2.18	6,688
2000	131	631	2,487	3,118	90	1.11	1.79	5,152
Geraniums from cuttings								
1996	191	3,144	547	3,691	65	1.38	2.69	5,810
1997	218	3,376	818	4,194	71	1.53	2.69	7,366
1998	228	6,355	1,173	7,528	78	1.33	2.55	11,443
1999	203	5,709	1,434	7,143	81	1.32	2.41	10,992
2000	222	3,298	1,369	4,667	67	1.54	2.43	8,406
Geraniums from seed								
1996	112	17,552	201	17,753	98	0.76	2.29	13,800
1997	127	19,078	693	19,771	98	0.75	2.30	15,902
1998	110	14,360	13	14,373	95	0.74	2.86	10,664
1999	104	14,469	108	14,577	97	0.72	2.99	10,741
2000	112	17,662	54	17,716	95	0.76	3.88	13,633
Marigolds								
2000	15			182	94		1.22	222
New Guinea Impatiens								
1996	137	1,087	80	1,167	84	0.93	3.76	1,312
1997	174	1,340	229	1,569	84	1.18	3.38	2,355
1998	193	1,469	234	1,703	79	1.14	3.49	2,491
1999	174	1,832	270	2,102	86	1.12	2.92	2,840
2000	190	2,848	287	3,135	89	1.10	3.93	4,261
Pansies/Violas								
2000	34	329	58	387	80	0.67	4.61	488

See footnote(s) at end of table.

--continued

Potted flowering and annual bedding plants: Producers, quantity sold, price, and value, 1996-2000 (continued)

Item	Producers	Quantity sold			Percent of sales at wholesale	Wholesale price		Value of sales at wholesale
		Less than 5 inch pots	5 inch pots or larger	Total		Less than 5 inch pots	5 inch pots or larger	
	<i>Number</i>	<i>1,000 pots</i>	<i>1,000 pots</i>	<i>1,000 pots</i>	<i>Percent</i>	<i>Dollars</i>	<i>Dollars</i>	<i>1,000 dollars</i>
Petunias								
1996	29	150	23	173	92	0.80	1.76	160
1997	45	143	87	230	86	0.80	1.86	276
1998	45	119	56	175	75	0.76	2.56	234
1999	61	179	190	369	92	0.97	2.10	573
2000	64	390	336	726	63	1.15	1.92	1,094
Poinsettias								
1996	119	996	2,960	3,956	90	1.69	3.52	12,102
1997	118	1,099	2,711	3,810	91	1.61	3.80	12,071
1998	100	1,111	2,584	3,695	83	2.01	3.96	12,466
1999	94	1,029	2,894	3,923	90	1.70	3.98	13,267
2000	97	1,375	3,138	4,513	87	1.23	3.88	13,867
Roses, florist								
2000	14	67	37	104	90	2.25	4.24	308
Flowering bulbs								
2000	43	735	999	1,734	97	1.59	3.31	4,475
Other flowering plants								
1996	81	1,090	1,063	2,153	93	1.33	3.42	5,085
1997	83	1,271	880	2,151	93	1.10	3.50	4,478
1998	91	1,171	1,013	2,184	94	1.41	3.67	5,369
1999	61	1,023	1,377	2,400	92	1.51	2.89	5,524
2000	66	982	722	1,704	88	1.64	4.43	4,809
Other flowering and foliar type bedding plants								
1996	153	11,904	1,994	13,898	95	1.04	2.68	17,724
1997	196	12,632	3,689	16,321	87	0.91	2.61	21,123
1998	215	8,427	8,740	17,167	83	1.07	3.38	38,558
1999	198	10,519	5,595	16,114	82	1.08	2.95	27,866
2000	131	9,571	1,848	11,419	80	1.01	2.87	14,970
Vegetable type ¹								
1996	82	250	136	386	72	0.69	2.07	454
1997	105	642	282	924	82	0.84	2.01	1,106
1998	66	470	153	623	64	0.77	1.28	558
1999	77	651	230	881	81	0.61	1.43	726
2000	73	716	135	851	86	0.81	1.79	822

¹ Does not include vegetable transplants grown for commercial use.

Nurseries: Number of operations and acres, by county and Michigan Department of Agriculture region ¹

County and MDA region	Number of operations		Acres		County and MDA region	Number of operations		Acres	
	1997	2000	1997	2000		1997	2000	1997	2000
	<i>Number</i>	<i>Number</i>	<i>Acres</i>	<i>Acres</i>		<i>Number</i>	<i>Number</i>	<i>Acres</i>	<i>Acres</i>
Menominee	3	3	65	20	Allegan	37	50	1,700	2,440
Other counties ²	21	14	440	210	Barry	7	5	25	30
Region 1	24	17	505	230	Berrien	61	59	960	860
Alcona	3	4	80	80	Branch	8	3	40	5
Antrim	13	15	75	90	Calhoun	19	21	140	170
Benzie	4	3	20	10	Cass	16	16	90	75
Charlevoix	(³)	4	(³)	20	Kalamazoo	36	28	450	200
Cheboygan	(³)	6	(³)	25	St Joseph	18	11	135	60
Emmet	6	6	120	170	Van Buren	32	33	550	610
Grand Traverse	20	12	30	20	Region 5	234	226	4,090	4,450
Kalkaska	4	7	60	170	Clinton	27	25	250	245
Leelanau	12	9	25	45	Eaton	29	22	380	225
Manistee	8	11	120	100	Gratiot	(³)	6	(³)	25
Missaukee	5	5	25	105	Hillsdale	(³)	8	(³)	15
Wexford	(³)	6	(³)	20	Ingham	33	25	420	415
Other counties ²	24	8	95	35	Jackson	22	17	270	260
Region 2	99	96	650	890	Lenawee	21	14	160	130
Ionia	14	9	90	95	Livingston	51	43	560	640
Kent	55	41	650	360	Shiawassee	14	14	280	95
Lake	(³)	3	(³)	135	Washtenaw	49	49	330	400
Mason	12	12	250	310	Other counties ²	11		30	
Mecosta	(³)	4	(³)	45	Region 6	257	223	2,680	2,450
Montcalm	11	16	70	465	Macomb	47	28	530	435
Muskegon	9	8	60	135	Monroe	38	33	540	625
Newaygo	12	11	100	130	Oakland	86	54	510	300
Oceana	6	9	40	95	St Clair	29	21	450	325
Osceola	(³)	6	(³)	70	Wayne	34	26	240	155
Ottawa	88	81	5,950	4,800	Region 7	234	162	2,270	1,840
Other counties ²	11		40		State total	1,230	1,085	18,750	18,300
Region 3	218	200	7,250	6,640					
Arenac	(³)	4	(³)	25					
Bay	8	8	110	135					
Genesee	35	41	180	330					
Huron	(³)	6	(³)	25					
Iosco	(³)	3	(³)	10					
Isabella	6	10	45	195					
Lapeer	38	31	420	385					
Midland	9	6	15	15					
Ogemaw	(³)	3	(³)	35					
Saginaw	31	26	250	270					
Sanilac	11	12	230	300					
Tuscola	10	6	30	30					
Other counties ²	16	5	25	45					
Region 4	164	161	1,305	1,800					

¹ Source: 1999-2000 Rotational Nursery & Christmas Tree Survey.

² Includes all counties with fewer than 3 operations.

³ Included in Other counties.

Christmas trees: Number of operations and acres, by county and Michigan Department of Agriculture region ¹

County and MDA region	Number of operations		Acres		County and MDA region	Number of operations		Acres	
	1997	2000	1997	2000		1997	2000	1997	2000
	<i>Number</i>	<i>Number</i>	<i>Acres</i>	<i>Acres</i>		<i>Number</i>	<i>Number</i>	<i>Acres</i>	<i>Acres</i>
Chippewa	6	4	270	170	Sanilac	8	6	360	360
Delta	17	15	800	820	Tuscola	12	9	600	260
Dickinson	14	9	500	240	Other counties ¹	12	8	260	260
Luce	5	3	160	110	Region 4	120	100	3,800	2,700
Marquette	3	4	130	100	Allegan	21	29	2,900	2,500
Menominee	31	36	1,600	1,800	Berrien	19	14	300	170
Other counties ¹	9	9	740	760	Calhoun	10	13	290	220
Region 1	85	80	4,200	4,000	Cass	6	4	160	100
Alcona	8	5	360	280	Kalamazoo	10	9	280	210
Alpena	8	8	350	200	Van Buren	16	17	700	750
Antrim	16	17	2,000	1,200	Other counties ¹	13	4	270	100
Benzie	12	12	630	600	Region 5	95	90	4,900	4,050
Cheboygan	21	18	1,100	1,000	Clinton	12	8	280	160
Emmet	9	6	180	130	Eaton	14	15	240	270
Grand Traverse	18	16	1,550	1,100	Hillsdale	8	6	270	250
Kalkaska	35	27	5,100	3,300	Ingham	13	13	280	310
Leelanau	17	13	520	370	Jackson	18	19	500	370
Manistee	24	27	2,700	2,600	Livingston	15	13	310	290
Missaukee	53	40	7,500	6,500	Shiawassee	5	3	130	50
Otsego	9	5	220	60	Washtenaw	10	10	350	250
Presque Isle	5	7	210	210	Other counties ¹	5	5	90	50
Wexford	47	41	8,500	7,300	Region 6	100	92	2,450	2,000
Other counties ¹	3	3	80	50	Monroe	6	5	140	130
Region 2	285	245	31,000	24,900	Oakland	16	15	310	270
Ionia	11	6	350	200	St Clair	9	9	380	410
Kent	11	8	800	570	Other counties ¹	14	9	320	140
Lake	7	6	700	530	Region 7	45	38	1,150	950
Mason	13	15	800	850	State total	970	830	69,000	54,000
Mecosta	20	6	1,400	650					
Montcalm	24	25	4,500	3,400					
Muskegon	13	12	450	350					
Newaygo	24	14	2,300	1,400					
Oceana	74	55	6,000	4,500					
Osceola	18	22	3,100	2,500					
Ottawa	25	16	1,100	450					
Region 3	240	185	21,500	15,400					
Arenac	4	7	230	160					
Clare	7	3	300	120					
Genesee	11	12	180	200					
Gladwin	4	4	130	130					
Iosco	8	7	200	110					
Isabella	23	14	750	400					
Lapeer	12	11	250	200					
Midland	4	5	160	150					
Saginaw	15	14	380	350					

¹ Source: 1999-2000 Rotational Nursery & Christmas Tree Survey.

Livestock, Dairy, and Poultry

Livestock: Record highs and lows

Livestock	Unit	Record high		Record low		Year estimates started
		Quantity	Year	Quantity	Year	
Cattle and calves	1,000 head	2,036	1944	538	1867	1867
Cattle on feed	1,000 head	250	1991	57	1931	1930
Chickens, all ¹	1,000 birds	15,512	1944	6,300	1992	1924
Cows, beef	1,000 head	239	1997	24	1925,1933	1920
Cows, milk	1,000 head	1,080	1945	225	1867	1867
Eggs ²	Million eggs	1,697	1944	1,104	1929	1924
Hogs and pigs ¹	1,000 head	1,397	1943	512	1935	1867
Honey	1,000 pounds	11,780	1939	4,386	1980	1921
Milk	Million pounds	5,758	1964	3,941	1927	1924
Sheep	1,000 head	3,100	1867	62	1999	1867
Wool	1,000 pounds	8,424	1934	430	1998	1934

¹ December 1.

² December 1 previous year to November 30.

Cattle and Calves

The January 1, 2001, Michigan cattle herd totaled 980,000 head, down 3 percent from a year ago. The January 1 milk cow inventory, at 300,000 head, was unchanged from the previous year. Milk cow replacement heifers, at 130,000, were up 5,000 head from last year. Beef cows, at 85,000 head, were down 11 percent. Beef replacement heifers, at 35,000 head, were up 17 percent from 2000. Calves on hand, at 178,000 head, were down 14,000 from last year. Steer numbers, at 190,000 head, were down 10,000 and other heifers, at 45,000 head, were down 5,000. The number of bulls, at 17,000 head, were down 1,000 from last year. The 2000 calf crop

was 345,000 head, 10,000 less than the previous year. Cattle on full feed for slaughter totaled 190,000 head, down 5 percent from the previous year. Michigan has 16,000 operations with cattle, unchanged from last year.

The January 1 Michigan cattle and calf inventory was valued at \$823 million, down 2 percent from January 1, 2000. Cash receipts from cattle and calf marketings totaled \$257 million, while total liveweight marketed was 448 million pounds.

Cattle and calves: Number of operations by size group, 1996-2000 ¹

Size group by head	Year				
	1996	1997	1998	1999	2000
1-49 head	13,200	11,500	11,000	11,200	11,200
50-99 head	2,800	2,800	2,280	2,170	2,200
100-499 head	2,800	3,000	2,500	2,400	2,350
500-999 head	160	160	160	170	190
1000 + head	40	40	60	60	60
Total	19,000	17,500	16,000	16,000	16,000

¹ An operation is any place having one or more head of cattle on hand at any time during the year.

Cattle and calves: Number on farms by class, January 1, 1997-2001

Class	1997	1998	1999	2000	2001
	<i>1,000 head</i>				
All cows that have calved	435	415	405	395	385
Beef cows	123	115	105	95	85
Milk cows	312	300	300	300	300
Heifers, 500 pounds and over	220	210	222	205	210
Beef cow replacement	33	30	32	30	35
Milk cow replacement	145	140	145	125	130
Other	42	40	45	50	45
Steers, 500 pounds and over	200	195	195	200	190
Bulls, 500 pounds and over	20	20	18	18	17
Calves, under 500 pounds	225	210	210	192	178
All cattle and calves	1,100	1,050	1,050	1,010	980

Cattle and calves: Production and income, 1996-2000

Year	Production ¹	Marketings ²	Average price per cwt		Value of production	Cash receipts ³	Value of home consumption	Gross income
			Cattle	Calves				
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>Dollars</i>	<i>Dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>
1996	412,059	478,550	49.80	51.60	205,371	238,674	7,991	246,665
1997	386,581	453,480	50.80	54.00	197,154	230,906	7,913	238,819
1998	385,229	411,250	47.70	51.70	183,321	196,656	7,465	204,121
1999	405,770	461,250	50.50	68.90	200,427	235,829	8,067	243,896
2000	409,061	448,000	56.00	102.00	221,902	257,320	9,183	266,503

¹ Adjustments made for changes in inventory and for inshipments.

² Excludes custom slaughter for use on farms where produced and inter-farm sales within the state.

³ Receipts from marketings and sale of farm slaughter.

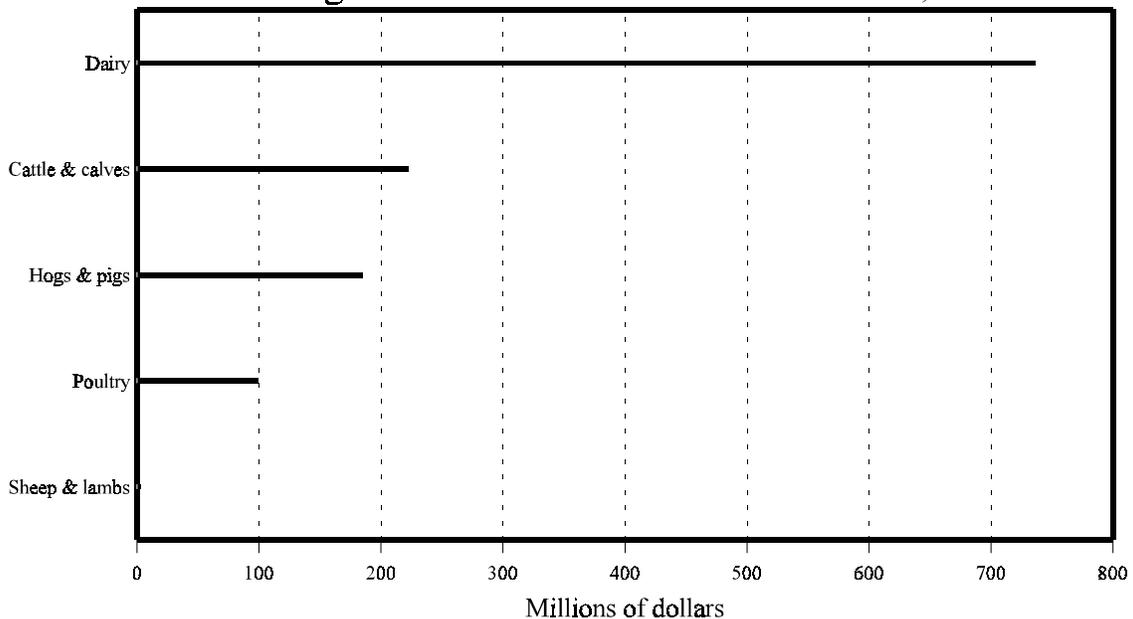
Cattle and calves: Balance sheet, 1996-2000

Year	All cattle and calves on hand January 1	Calf crop	Inshipments	Marketings ¹		Farm slaughter cattle and calves ²	Deaths		All cattle and calves on hand following January 1
				Cattle	Calves		Cattle	Calves	
	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>
1996	1,150	400	75	375	62	5	25	58	1,100
1997	1,100	385	70	363	53	5	25	59	1,050
1998	1,050	365	65	308	37	5	25	55	1,050
1999	1,050	355	70	338	47	5	25	50	1,010
2000	1,010	345	55	318	42	5	20	45	980

¹ Includes custom slaughter and state outshipments, but excludes inter-farm sales within Michigan.

² Excludes custom slaughter for farmers at commercial establishments.

Michigan Livestock: Value of Production, 2000



Poultry

The total value of poultry production in Michigan from eggs, turkeys, and other chickens (primarily culled layers) during 2000 was \$97.65 million, 10 percent more than a year earlier. The value of egg production totaled \$56.74 million, up 6 percent from 1999. Egg production totaled 1.621 billion eggs, up 6 percent from last year. The market egg price averaged 42 cents per dozen, unchanged

from 1999. The value of turkey production during 2000 was \$40.46 million, up 15 percent. The total pounds of turkey produced was 119.0 million, up 39 percent. The average price per pound was 34 cents, down 7 cents from last year. Other chicken production at 3.24 million birds was down 2 percent. Other chicken production was valued at \$453,000, up 102 percent from 1999.

Chickens: Layers on hand, December 1, 1996-2000

Class	1996	1997	1998	1999	2000
	<i>1,000 head</i>				
Layers, 1 year old and older	1,800	2,343	3,310	2,174	3,480
Layers, 20 weeks old but less than 1 year	3,300	2,817	2,441	4,013	2,825
Pullets, 13-20 weeks old	820	390	286	537	569
Pullets, less than 13 weeks	390	630	704	1,060	721
Other chickens	10	10	3	3	1
All chickens (excluding broilers)	6,320	6,190	6,744	7,787	7,596

Turkeys: Production, price, and income, 1999-2000 ¹

Year	Number raised ²	Pounds produced	Price per pound ³	Value of production
	<i>Thousands</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>
1999	2,700	85,590	41.1	35,092
2000	3,500	119,000	34.0	40,460

Market eggs: Production, price, and value

Year	Eggs produced	Price per dozen	Value of production
	<i>Million</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1996	1,318	0.623	68,426
1997	1,327	0.560	61,927
1998	1,395	0.496	57,639
1999	1,533	0.420	53,655
2000	1,621	0.420	56,739

¹ December 1 previous year through November 30.

² Based on turkeys placed Sep 1 through Aug 31. Excludes young turkeys lost.

³ Equivalent live weight returns to producers.

Total egg production, by month, 1996-2000

Month	1996	1997	1998	1999	2000
	<i>Million eggs</i>				
December	115	115	115	132	140
January	110	110	111	130	134
February	107	100	102	115	126
March	114	112	120	129	143
April	111	110	110	122	135
May	111	109	111	121	130
June	105	105	111	117	131
July	108	111	118	130	142
August	107	114	124	137	137
September	104	113	120	129	131
October	112	117	126	134	136
November	113	111	125	136	135
Total ¹	1,318	1,327	1,393	1,533	1,621

¹ Sum of months may not add to total due to rounding.

All layers: Average number on hand during the month, 1996-2000

Month	1996	1997	1998	1999	2000
	<i>1,000 head</i>				
December	5,375	5,016	5,196	5,763	6,206
January	5,281	5,021	5,058	5,770	6,178
February	5,155	5,115	5,098	5,898	6,271
March	5,135	5,136	5,282	5,923	6,484
April	5,141	5,089	5,202	5,656	6,321
May	5,021	5,024	5,128	5,659	6,136
June	4,810	5,046	5,097	5,799	6,325
July	4,706	4,980	5,291	5,863	6,379
August	4,791	5,010	5,541	5,827	6,168
September	4,885	5,086	5,586	5,847	6,073
October	4,891	5,150	5,621	6,089	6,110
November	4,971	5,210	5,704	6,189	6,209
Annual ¹	5,013	5,073	5,318	5,856	6,238

¹ December 1 previous year through November 30.

Hogs and Pigs

Michigan hog production totaled 465 million pounds in 2000, down less than 1 percent from 1999. Based on the December 1, 2000 inventory of 950,000 hogs and pigs, Michigan ranked 13th in the nation in terms of inventory.

Breeding inventory accounted for 11.6 percent of the total inventory, while market hogs made up the remaining 88.4 percent. Statewide, Cass, Allegan, Ottawa, Branch and Huron are the top five

hog producing counties.

The annual average price for all hogs was \$40.70 per hundredweight (cwt.) for 2000, compared with the 1999 average price of \$29.80 per cwt.

Marketings of all hogs and pigs totaled 483.8 million pounds in 2000, down 2 percent from 1999. Cash receipts jumped 34 percent from the previous year to \$200 million.

Hogs and pigs: Number of operations, by size group, 1996-2000 ¹

Year	Operations						Total
	1-99	100-499	500-999	1,000-1,999	2,000-4,999	5,000+	
	<i>Number</i>						
1996	3,200	750	170	150	100	30	4,400
1997	2,050	510	180	130	100	30	3,000
1998	1,900	500	100	150	120	30	2,800
1999	1,200	500	100	130	130	40	2,100
2000	1,400	390	110	140	120	40	2,200

¹ An operation is any place having one or more head on hand at any time during the year.

Hogs and pigs: Sows farrowing and pig crop, 1996-2000

Year	December-February			March-May		
	Sows farrowing	Pigs per litter	Pig crop	Sows farrowing	Pigs per litter	Pig crop
	<i>1,000 head</i>	<i>head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>head</i>	<i>1,000 head</i>
1997	40	8.4	336	55	8.4	462
1998	40	8.8	352	53	8.9	472
1999	37	9.0	333	55	8.9	490
2000	44	8.8	387	50	9.0	450
2001	47	8.9	418	50	9.0	450
	June-August			September-November		
1996	52	8.3	432	45	8.3	374
1997	54	8.7	470	48	8.7	418
1998	52	8.9	463	52	8.5	442
1999	51	9.0	459	49	9.0	441
2000	50	8.9	445	48	9.1	434

Hogs and pigs: Inventory, 1997-2001

Month and year	Market hogs and pigs					Breeding stock	Total hogs and pigs
	Under 60 pounds	60-119 pounds	120-179 pounds	180 lbs and over	Total market		
	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>
March 1							
1997	270	205	190	155	820	130	950
1998	290	220	195	165	870	130	1,000
1999	280	225	190	185	880	110	990
2000	295	215	170	160	840	120	960
2001	310	180	160	130	780	120	900
June 1							
1997	400	185	180	125	890	130	1,020
1998	450	220	190	140	1,000	130	1,130
1999	430	220	200	130	980	120	1,100
2000	390	200	160	130	880	110	990
2001	310	215	160	125	810	110	920
September 1							
1997	340	260	200	170	970	130	1,100
1998	300	250	195	205	950	120	1,070
1999	310	260	190	160	920	110	1,030
2000	350	240	180	140	910	110	1,020
December 1							
1997	320	200	205	175	900	130	1,030
1998	340	270	180	210	1,000	120	1,120
1999	330	205	170	155	860	120	980
2000	320	200	170	150	840	110	950

Hogs and pigs: Production and income, 1996-2000

Year	Production ¹	Marketings ²	Average price per cwt	Value of production	Cash receipts ³	Value of home consumption	Gross income
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>Dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>
1996	399,495	418,754	51.40	204,117	215,629	1,385	217,014
1997	396,899	401,325	53.10	207,562	213,722	1,495	215,217
1998	402,708	403,550	33.90	132,639	138,347	1,393	139,740
1999	466,637	494,787	29.80	136,678	149,937	1,229	151,166
2000	464,577	483,775	40.70	184,575	200,485	1,662	202,147

¹ Adjustments made for changes in inventory and for inshipments.

² Excludes custom slaughter for use on farms where produced and inter-farm sales within the state.

³ Receipts from marketing and sales of farm slaughter. Includes allowance for higher average price of outshipments of feeder pigs.

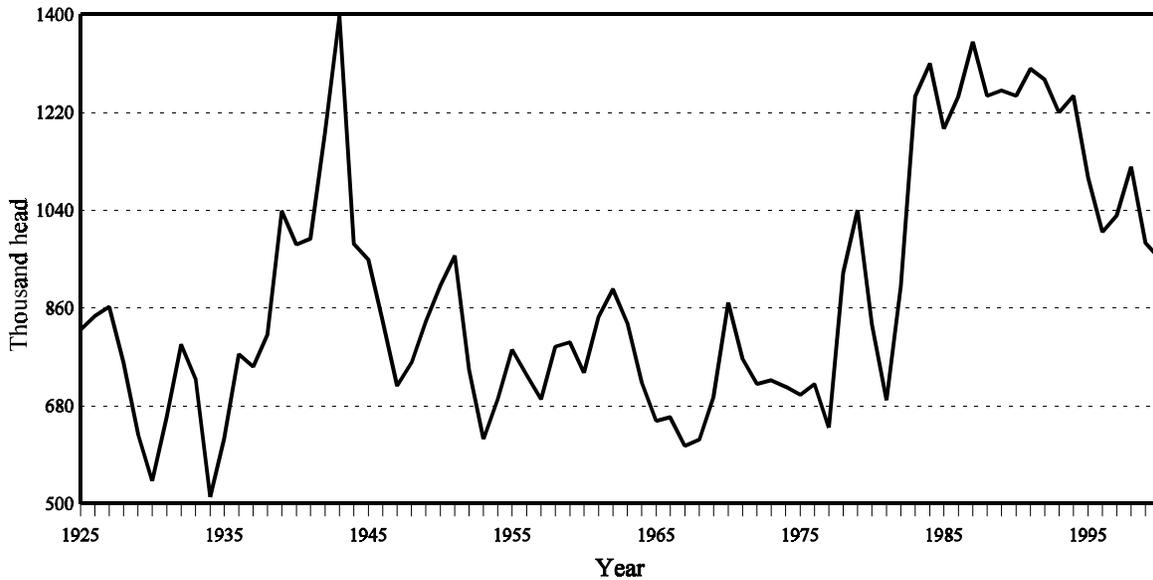
Hogs and pigs: Balance sheet, 1996-2000

Year	Beginning inventory	Dec-Nov pig crop	Inshipments	Marketings ¹	Farm slaughter ²	Deaths	Number on hand December 1
	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>	<i>1,000 head</i>
1996	1,100	1,661	56	1,726	3	88	1,000
1997	1,000	1,686	85	1,663	3	75	1,030
1998	1,030	1,729	125	1,683	6	75	1,120
1999	1,120	1,723	225	1,999	4	85	980
2000	980	1,716	275	1,937	4	80	950

¹ Includes custom slaughter and state outshipments, but excludes sales within Michigan.

² Excludes custom slaughter for farmers at commercial establishments.

December 1 Hog Inventory, 1925-2000



Honey

Honey production in Michigan during 2000 totaled 5.40 million pounds, 13 percent less than a year ago. This estimate included honey from producers with 5 or more colonies. Michigan ranked 9th in honey production in 2000 compared to 8th in 1999. There were 72,000 colonies in production during 2000, down 1,000 colonies from 1999. Yield per colony averaged 75 pounds, down 10 pounds from 85 pounds in 1999.

Michigan honey prices averaged 60 cents per pound, down 6 cents from last year. Value of production totaled \$3.24 million, down 21 percent from 1999. Honey stocks on hand for sale, as of December 15, totaled 2.97 million pounds, down 15 percent from 1999.

Honey: Production and value, 1996-2000 ¹

Year	Honey producing colonies	Yield per colony	Production	Price per pound	Value of production	Stocks Dec 15 ²
	<i>Thousands</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>1,000 pounds</i>
1996	90	96	8,640	101	8,726	4,320
1997	85	70	5,950	77	4,582	3,273
1998	80	85	6,800	66	4,488	3,672
1999	73	85	6,205	66	4,095	3,475
2000	72	75	5,400	60	3,240	2,970

¹ Includes only producers with 5 or more colonies.

² Stocks held by producers.

Dairy

Milk production in Michigan during 2000 was 5,705 million pounds, up 4.6 percent from 1999. Michigan ranked 8th nationally in milk production in 2000, accounting for 3.4 percent of U.S. production.

The annual average number of milk cows on Michigan farms during 2000 was 300,000 head, up 1,000 from the previous year. The number of operations with milk cows fell to 3,500 from 3,700

in 1999. Milk production per cow was 19,017 pounds in 2000, compared with 18,244 pounds during 1999. The average butterfat content was 3.66 percent compared with 3.69 percent in 1999.

Milk prices during the year averaged \$12.90 per cwt., down \$1.90 from the previous year. Cash receipts from milk sales totaled \$729 million, down 9.0 percent from 1999. Milk continued as the top ranked Michigan commodity in cash receipts.

Milk: Production, utilization, marketings, and value, 1996-2000

Item	Unit	1996	1997	1998	1999	2000
		Production				
Production						
Total milk produced on farms	Million pounds	5,430	5,410	5,365	5,455	5,705
Milkfat produced	Million pounds	200.4	197.5	194.7	201.3	208.8
Milkfat	Percent	3.69	3.65	3.63	3.69	3.66
Utilization						
Milk used where produced						
Fed to calves	Million pounds	50	41	40	37	45
Used for milk, cream, and butter	Million pounds	5	4	5	3	5
Milk marketed by producers	Million pounds	5,375	5,365	5,320	5,415	5,655
Average return per 100 pounds of milk	Dollars	15.00	13.60	15.30	14.80	12.90
Average return per pound milkfat	Dollars	4.07	3.74	4.21	4.01	3.52
Fluid grade	Percent	99	99	99	99	99
Total cash receipts	1,000 dollars	807,488	732,135	813,960	801,420	729,495
Value						
Value of milk used where produced ¹	1,000 dollars	8,263	6,141	6,885	5,920	6,450
Total value of milk produced	1,000 dollars	815,751	738,276	820,845	807,340	735,945

¹ Includes value of milk fed to calves and milk used by farm households.

Milk cows: Number of operations, by size group, 1996-2000 ¹

Size group by head	1996	1997	1998	1999	2000
	<i>Number of operations</i>				
1-29	1,100	1,100	950	1,000	1,000
30-49	900	900	900	700	630
50-99	1,300	1,100	1,100	1,000	900
100-199	880	850	810	750	700
200-499	220	250	205	200	215
500+ ²			35	50	55
Total	4,400	4,200	4,000	3,700	3,500

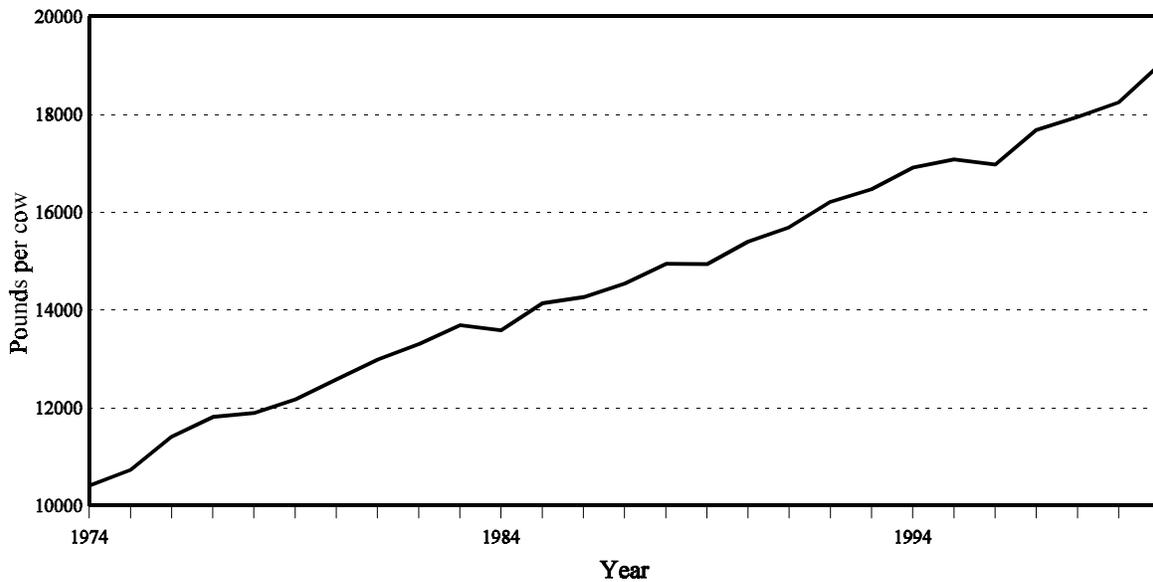
¹ An operation is any place having one or more milk cows on hand at any time during the year.

² Included in 200+ size group, prior to 1998.

Milk cows: Number by month, 1996-2000

Month	1996	1997	1998	1999	2000
	<i>1,000 head</i>				
January	325	311	297	291	298
February	322	310	296	292	296
March	321	306	297	296	296
April	322	306	298	298	299
May	322	308	299	303	301
June	322	310	301	304	304
July	323	309	305	306	302
August	320	308	302	302	302
September	317	304	299	299	300
October	317	303	297	299	302
November	314	301	297	298	299
December	312	301	299	297	300
Annual	320	306	299	299	300

Annual Milk per Cow 1974-2000



Milk production: Total by month, 1996-2000

Month	1996	1997	1998	1999	2000
	<i>Million pounds</i>				
January	463	460	441	442	474
February	440	425	406	410	447
March	477	465	454	463	485
April	464	454	446	454	481
May	473	474	468	486	494
June	446	462	456	465	485
July	454	460	471	474	489
August	450	462	459	462	485
September	433	435	438	444	455
October	449	444	441	454	477
November	430	426	431	441	460
December	451	443	454	460	473
Annual	5,430	5,410	5,365	5,455	5,705

Milk: Production per cow, by month, 1996-2000

Month	1996	1997	1998	1999	2000
	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
January	1,425	1,480	1,485	1,520	1,590
February	1,365	1,370	1,370	1,405	1,510
March	1,485	1,520	1,530	1,565	1,640
April	1,440	1,485	1,495	1,525	1,610
May	1,470	1,540	1,565	1,605	1,640
June	1,385	1,490	1,515	1,530	1,595
July	1,405	1,490	1,545	1,550	1,620
August	1,405	1,500	1,520	1,530	1,605
September	1,365	1,430	1,465	1,485	1,515
October	1,415	1,465	1,485	1,520	1,580
November	1,370	1,415	1,450	1,480	1,540
December	1,445	1,473	1,520	1,550	1,575
Annual	16,969	17,680	17,943	18,244	19,017

Dairy products: Annual production totals, 1996-2000

Product	1996	1997	1998	1999	2000
	<i>1,000 gallons</i>				
Michigan					
Ice cream, fullfat, total	29,296	27,973	24,198	19,572	21,607
Ice cream, lowfat, total	19,152	19,131	18,583	17,812	18,414
Sherbet, total	1,747	1,800	2,016	1,369	1,702
Ice cream mix, fullfat	14,329	13,757	12,161	10,317	11,052
Ice cream mix, lowfat	7,813	8,040	8,729	8,117	8,183
Sherbet mix	1,060	1,025	1,019	722	1,010
	<i>Million pounds</i>				
East North Central Region ¹					
Cheese, total	2,441.5	2,469.6	2,484.4	2,538.5	2,604.7
Cheese, American type ²	1,014.4	983.6	982.9	990.2	951.8
Cheese, Italian	985.0	1,008.7	1,025.4	1,031.9	1,101.1
Cottage cheese, curd	107,715	109,125	115,604	110,954	112,892
Cottage cheese, creamed	106,537	112,389	110,229	96,311	102,329
Cottage cheese, low fat	71,049	72,668	78,354	74,009	77,612
Condensed skim milk, unsweetened, bulk	111.6	128.0	119.2	146.6	161.1
Dried milk, nonfat for human food	73.5	71.4	57.0	58,419.0	57,205.0
Butter	379.4	383.2	373.3	349.8	327.2
Water & juice ices	8,979	7,649	8,136	7,521	8,098
Yogurt, plain and flavored	547.5	550.5	569.9	624.3	720.7

¹ Illinois, Indiana, Michigan, Ohio, and Wisconsin.

² Cheddar, Colby, washed curd, stirred curd, Monterey, and Jack.

Dairy products: Ice cream, fullfat, total, by month, 1996-2000

Month	1996	1997	1998	1999	2000
	<i>1,000 gallons</i>				
January	1,804	1,905	1,644	1,010	1,744
February	2,045	1,944	1,765	1,317	1,724
March	2,204	2,290	2,007	1,652	1,967
April	2,600	2,448	2,271	1,933	1,907
May	2,815	2,814	2,319	1,791	1,771
June	3,338	2,743	2,807	2,283	1,945
July	3,489	2,734	2,643	2,194	1,999
August	3,098	2,611	2,502	2,164	2,084
September	2,432	2,413	2,159	1,626	1,793
October	2,035	2,116	1,591	1,314	1,791
November	1,572	2,125	1,168	990	1,637
December	1,864	1,830	1,322	1,298	1,246
Total	29,296	27,973	24,198	19,572	21,607

Mink

Mink pelt production in Michigan was 42,500 pelts in 2000, totaled 9,600, compared with 11,000 in 2000. down 8,500 from 1999. Female mink bred to produce kits in 2001

Mink: Number of farms and females bred to produce kits, 1996-2000

Year	1996	1997	1998	1999	2000
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
Mink farms	9	12	13	13	11
Females bred for next year	14,000	15,500	15,500	8,800	11,000

Mink: Pelt production by class, 1996-2000 ¹

Color class	1996	1997	1998	1999	2000
	<i>Number of pelts</i>				
Standard	30,000	25,000	13,900	16,500	
Ranch wild					
Demi-buff	400				
Pastel	1,600	1,600	1,200	2,000	
Sapphire	3,400	3,000	2,700	2,300	
Gunmetal	1,600				
Violet	1,200	1,500			
Pearl	1,700	1,500	800		
White	3,800		4,400		
Mahogany	12,700	17,000	20,000	23,500	
Other	600				
Total	57,000	56,000	46,000	51,000	42,500

¹ Color-class data not published for some years to avoid disclosure of individual operations.

Sheep and Lambs

Michigan sheep operations in 2000 numbered 1,800, up 100 from 1999. All sheep and lamb inventory in Michigan on January 1, 2001 was estimated at 71,000 head, up 4 percent from a year ago. The breeding sheep inventory, at 51,000 head, unchanged from the previous year. Market sheep and lambs totaled 20,000 head, up 3,000 from a year earlier. The 2000 Michigan lamb crop (lambs born October 1, 1999 through September 30, 2000) was 46,000 head, up 2 percent from the previous year.

Sheep and lamb value of production, was \$2.7 million, up 3

percent from 1999. Cash receipts totaled \$2.2 million for 2000. All sheep and lambs were valued at \$120 per head, down \$5 from the previous year.

Sheep shorn in 2000 totaled 72,000 head. The weight per fleece was 6.4 pounds, compared with 7.0 pounds in 1999. Total wool production in Michigan was 460,000 pounds. Wool production was valued at \$64,000. The average price per pound was unchanged at \$0.14.

Sheep and lambs: Number on farms by class, January 1, 1997-2001

Class	1997	1998	1999	2000	2001
	<i>1,000 Head</i>				
Breeding sheep 1 year and older					
Ewes	50	38	34	38	40
Rams	3	3	3	3	2
Replacement lambs	9	7	7	10	9
Total market sheep and lambs	23	24	18	17	20
All sheep and lambs	85	72	62	68	71

Sheep and lambs: Number of operations, 1996-2000 ¹

Year	Number
1996	1,900
1997	1,600
1998	1,600
1999	1,700
2000	1,800

¹ An operation is any place having one or more head on hand at any one time during the year.

Sheep and lambs: Lamb crop, 1996-2000

Year	Breeding ewes ¹	Lambs per 100 ewes ¹	Lamb crop
	<i>1,000 Head</i>	<i>Number</i>	<i>1,000 Head</i>
1996	49	129	63
1997	50	124	62
1998	38	121	46
1999	34	132	45
2000	38	121	46

¹ Ewes 1 year and older January 1.

Sheep and lambs: Balance sheet, 1996-2000

Year	All sheep and lambs on hand January 1	Lamb crop	Inshipments	Marketings ¹		Farm slaughter ²	Deaths		All sheep and lambs on hand following January 1
				Sheep	Lambs		Sheep	Lambs	
	<i>1,000 Head</i>	<i>1,000 Head</i>	<i>1,000 Head</i>	<i>1,000 Head</i>	<i>1,000 Head</i>	<i>1,000 Head</i>	<i>1,000 Head</i>	<i>1,000 Head</i>	<i>1,000 Head</i>
1996	87	63	10.0	9.0	51.0	2.0	2.0	11.0	85
1997	85	62	13.0	24.0	49.0	2.0	2.0	11.0	72
1998	72	46	8.0	16.0	36.0	2.0	1.0	9.0	62
1999	62	45	5.0	4.0	28.5	2.0	2.5	7.0	68
2000	68	46	2.0	7.5	26.5	2.0	3.0	6.0	71

¹ Includes custom slaughter and state outshipments, but excludes sales within Michigan.

² Excludes custom slaughter for farmers at commercial establishments.

Sheep and lambs: Production and income, 1996-2000

Year	Production ¹	Marketings ²	Average price per cwt		Value of production	Cash receipts ³	Value of home consumption	Gross income
			Sheep	Lambs				
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>Dollars</i>	<i>Dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>
1996	6,465	6,735	25.00	86.50	5,073	5,079	497	5,576
1997	6,140	8,530	35.00	84.00	4,834	5,578	483	6,061
1998	4,270	5,715	32.00	69.00	2,710	3,233	397	3,630
1999	3,982	3,225	30.00	69.00	2,579	2,111	397	2,508
2000	3,848	3,250	31.00	75.00	2,654	2,197	431	2,628

¹ Adjustments made for changes in inventory and for inshipments.

² Excludes custom slaughter for use on farms where produced and inter-farm sales within the state.

³ Receipts from marketings and sale of farm slaughter.

Sheep and lambs: Wool production and value, 1996-2000

Year	Sheep shorn	Weight per fleece	Production	Price per pound	Value of production ¹
	<i>1,000 Head</i>	<i>Pounds</i>	<i>1,000 Pounds</i>	<i>Cents</i>	<i>1,000 Dollars</i>
1996	80	7.4	590	36	212
1997	62	7.3	450	44	198
1998	58	7.4	430	31	133
1999	66	7.0	465	14	65
2000	72	6.4	460	14	64

¹ Production multiplied by marketing year average price.

Trout

Michigan's 33 commercial trout operations sold 474,000 pounds of trout in 2000. This was an increase of 11 percent from last season. Sales were valued at \$1.0 million, and included sales of foodsize trout (12 inches or longer), stockers (6 to 12 inches), fingerlings (2 to 6 inches) and eggs.

Foodsize trout had sales of 388,000 pounds with an average liveweight of 1.2 pounds per fish. Foodsize sales totaled \$776,000 for an average value of \$2.00 per pound. The major sales outlets were direct sales to fee fishing at 30 percent of total, 24 percent direct to consumers and 20 percent to processors. Stocker trout sales

totaled 78,000 pounds with an average liveweight of 0.37 pounds per trout. The value of sales, at \$207,000, increased from \$174,000 and averaged \$2.65 per pound. Fee fishing at 70 percent of sales and direct to consumers at 11 percent accounted for the majority of sales. Number of fingerlings sold was 250,000, down 19 percent from last year. The value of sales decreased to \$54,000 and averaged \$215.00 per 1,000 fish.

Losses of trout in Michigan amounted to 224,000 fish, weighing 29,000 pounds. Disease accounted for 51 percent of all fish lost.

Trout: Sales by size category, 1996-2000

Size category	Number of fish	Live weight	Sales	
			Total	Average per pound ¹
	<i>1,000</i>	<i>1,000</i>	<i>1,000 dollars</i>	<i>Dollars</i>
Foodsize (12 inches long or more):				
1996	605	570	1,330	
1997	550	540	1,255	2.32
1998	340	350	777	2.22
1999	320	352	859	2.44
2000	330	388	776	2.00
Stocker (6-12 inches long):				
1996	620	240	525	2.19
1997	220	75	160	2.13
1998	320	109	302	2.77
1999	200	65	174	2.67
2000	210	78	207	2.65
Fingerlings (2-6 inches long):				
1996	700	18	200	11.11
1997	485	13	70	5.38
1998	320	17	72	226.00
1999	310	10	80	259.00
2000	250	8	54	215.00

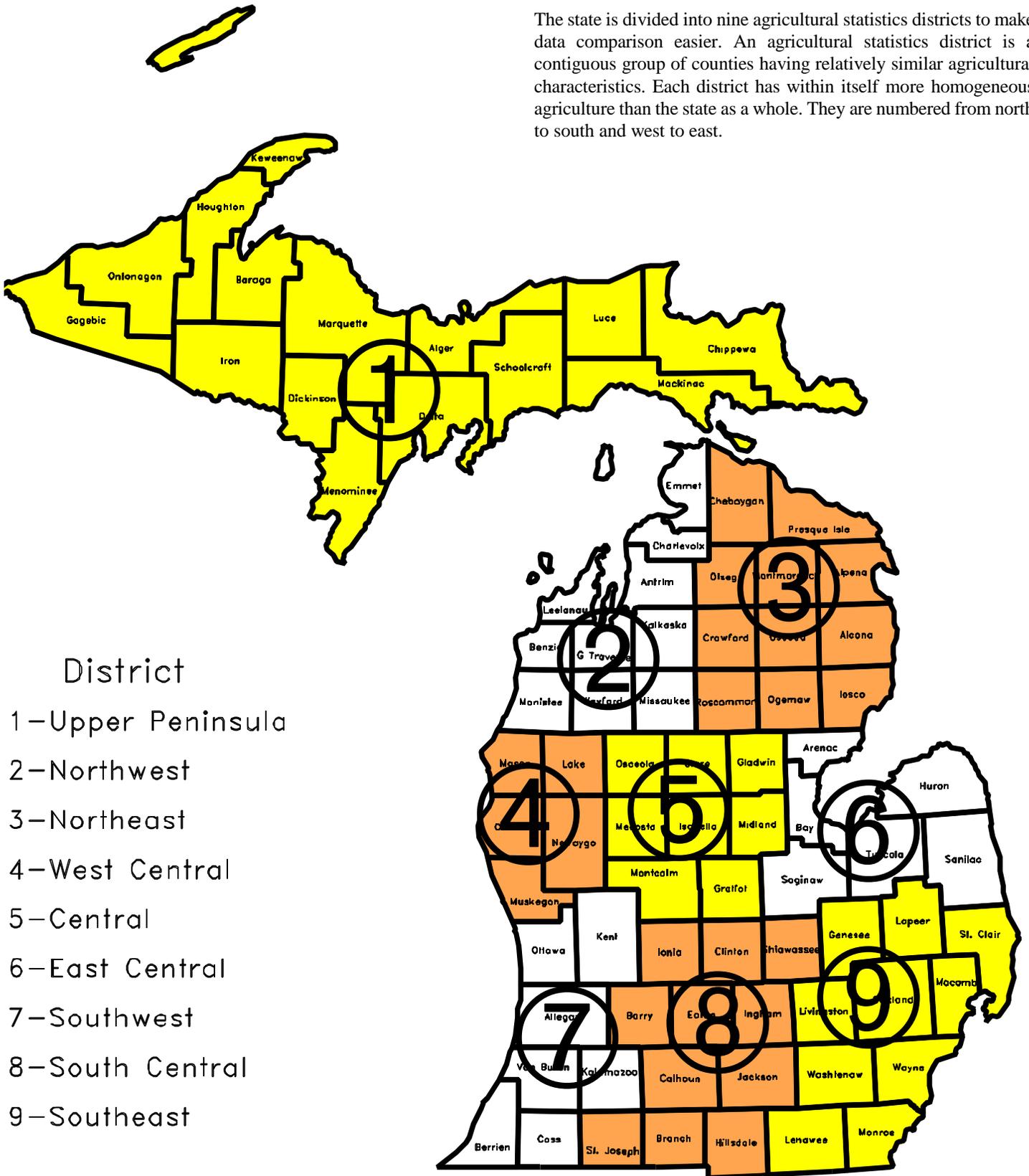
¹ Average per thousand fish after 1997.

Trout: Number of operations, 1997-2001

Year	Operations
	<i>Number</i>
1997	41
1998	42
1999	39
2000	30
2001	33

Agricultural Statistics Districts

The state is divided into nine agricultural statistics districts to make data comparison easier. An agricultural statistics district is a contiguous group of counties having relatively similar agricultural characteristics. Each district has within itself more homogeneous agriculture than the state as a whole. They are numbered from north to south and west to east.



District

- 1—Upper Peninsula
- 2—Northwest
- 3—Northeast
- 4—West Central
- 5—Central
- 6—East Central
- 7—Southwest
- 8—South Central
- 9—Southeast

Principal counties for field crops, 2000 ¹

Rank	Corn	Dry beans	Hay	Oats	Soybeans	Sugarbeets	Wheat
1	Huron	Huron	Sanilac	Sanilac	Lenawee	Huron	Sanilac
2	Lenawee, St. Joseph	Tuscola	Huron, Isabella	Presque Isle	Sanilac	Tuscola	Huron
3		Montcalm		Alpena	Monroe	Sanilac	Lenawee
4	Sanilac	Bay	Missaukee	Huron	Saginaw	Saginaw	Saginaw
5	Saginaw	Gratiot	Osceola, Ogemaw	Grand Traverse	Tuscola	Bay	Shiawasse

¹ Based on total production.

Principal counties for livestock, 2000 ¹

Rank	Cattle & Calves	Hogs	Milk cows	Sheep
1	Huron	Cass	Sanilac	Washtenaw
2	Sanilac	Allegan	Clinton	Kalamazoo
3	Clinton	Ottawa	Allegan	Jackson
4	Allegan	Branch	Huron	Eaton
5	Ottawa	Huron	Ottawa	St. Joseph

¹ Based on number of head

Principal counties for fruit and vegetables, 2000 ¹

Rank	Apples	Blueberries	Grapes	Tart Cherries	Asparagus	Cucumbers	Snap Beans
1	Kent	Van Buren	Berrien	Leelanau	Oceana	Van Buren	St Joseph
2	Berrien	Ottawa	Van Buren	Oceana	Mason	Muskegon	Montcalm
3	Van Buren	Allegan	Cass	Grand Traverse	Van Buren	St Joseph	Mason
4	Ottawa	Berrien	Kalamazoo	Antrim	Manistee	Cass	Oceana
5	Oceana	Muskegon	Leelanau	Berrien	Berrien	Lenawee	Kalamazoo

¹ Based on acres from rotational surveys

Barley: Acreage, yield, and production, by county, 1999-2000 ¹

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>
Alger					500	500	52	26
Delta	1,750	1,750	60	105	1,600	1,600	65	104
Menominee	3,400	3,300	55	180	3,500	3,400	59	200
Other counties ²	2,350	2,350	53	125	1,800	1,800	53	95
Upper Peninsula	7,500	7,400	55	410	7,400	7,300	58	425
Northwest	900	900	57	51	900	900	67	60
Alpena					500	500	80	40
Cheboygan	500	500	110	55				
Montmorency					850	850	61	52
Ogemaw	700	700	86	60				
Presque Isle	900	900	61	55				
Other counties ²	2,300	2,100	76	160	2,950	2,950	65	193
Northeast	4,400	4,200	79	330	4,300	4,300	66	285
Isabella	700	700	77	54				
Other counties ²	1,000	800	64	51				
Central	1,700	1,500	70	105	1,600	1,400	52	73
Huron	2,700	1,700	85	145				
Tuscola	950	850	86	73				
Other counties ²	1,650	1,450	67	97				
East Central	5,300	4,000	79	315	3,000	2,300	61	140
South Central	1,000	900	70	63	1,500	1,500	60	90
Southeast	1,100	1,100	50	55	800	800	50	40
Other districts ²	1,100	1,000	57	57	500	500	54	27
Michigan	23,000	21,000	66	1,386	20,000	19,000	60	1,140

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Corn: Acreage, yield, and production, by county, 1999 ¹

County and district	Planted for all purposes	1999					
		Grain			Silage		
		Harvested	Yield	Production	Harvested	Yield	Production
<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>	<i>Acres</i>	<i>Tons</i>	<i>1,000 Tons</i>	
Delta	4,000	2,700	111	300	1,150	13.0	15
Menominee	12,600	5,400	112	605	7,000	16.4	115
Other counties ²	3,400	900	106	95	2,350	11.9	28
Upper Peninsula	20,000	9,000	111	1,000	10,500	15.0	158
Antrim	4,200	2,600	123	320	1,500	16.0	24
Charlevoix	3,300	2,700	111	300	500	14.0	7
Emmet	2,400	1,350	111	150	1,000	17.0	17
Grand Traverse	7,800	6,000	120	720	1,600	15.6	25
Kalkaska	1,700	1,150	109	125	500	8.0	4
Leelanau	4,500	3,600	103	370			
Missaukee	14,500	6,600	146	965	7,700	15.6	120
Other counties ²	6,600	4,000	88	350	3,200	13.4	43
Northwest	45,000	28,000	118	3,300	16,000	15.0	240
Alpena	7,300	6,000	98	590	1,200	14.2	17
Iosco	6,900	3,700	130	480	3,100	11.0	34
Ogemaw	9,100	5,200	154	800	3,800	20.5	78
Presque Isle	5,100	4,200	117	490	800	12.5	10
Other counties ²	6,600	3,900	113	440	2,600	15.8	41
Northeast	35,000	23,000	122	2,800	11,500	15.7	180
Muskegon	16,500	12,500	112	1,400	3,800	13.9	53
Newaygo	25,500	18,000	131	2,350	7,000	17.1	120
Oceana	11,500	8,800	114	1,000	2,500	14.0	35
Other counties ²	11,500	8,700	121	1,050	2,700	15.6	42
West Central	65,000	48,000	121	5,800	16,000	15.6	250
Clare	5,000	3,100	127	395	1,900	20.5	39
Gladwin	6,700	5,800	115	665			
Gratiot	78,000	70,000	151	10,550	7,500	25.5	191
Isabella	41,500	33,000	150	4,940	8,400	15.6	131
Mecosta	16,000	12,400	141	1,750	3,600	13.6	49
Midland	20,000	19,500	151	2,950			
Montcalm	50,000	43,000	136	5,850	6,700	19.6	131
Osceola	7,800	3,200	125	400	4,600	18.9	87
Other counties ²					1,300	16.9	22
Central	225,000	190,000	145	27,500	34,000	19.1	650
Arenac	16,000	13,500	130	1,750			
Bay	40,000	38,500	157	6,050			
Huron	112,000	91,000	154	14,000	20,000	18.0	360
Saginaw	79,000	76,000	155	11,750	2,700	16.7	45
Sanilac	95,000	78,000	142	11,050	16,000	16.3	261
Tuscola	78,000	74,000	149	11,000	3,600	18.9	68
Other counties ²					3,700	17.8	66
East Central	420,000	371,000	150	55,600	46,000	17.4	800

See footnote(s) at end of table.

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Corn: Acreage, yield, and production, by county, 1999 ¹ (continued)

County and district	Planted for all purposes	1999					
		Grain			Silage		
		Harvested	Yield	Production	Harvested	Yield	Production
<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>	<i>Acres</i>	<i>Tons</i>	<i>1,000 Tons</i>	
Allegan	74,000	66,000	120	7,950	7,600	17.6	134
Berrien	46,000	45,200	119	5,400			
Cass	67,000	65,800	94	6,170	900	12.2	11
Kalamazoo	50,000	47,200	111	5,230	2,600	18.1	47
Kent	44,000	34,500	142	4,900	9,300	20.8	193
Ottawa	46,000	36,600	115	4,200	9,100	14.2	129
Van Buren	33,000	31,700	103	3,250			
Other counties ²					1,500	10.7	16
Southwest	360,000	327,000	113	37,100	31,000	17.1	530
Barry	38,000	31,500	127	4,000	6,400	20.9	134
Branch	83,000	81,000	123	9,980	1,600	17.5	28
Calhoun	67,000	62,500	111	6,950	4,000	15.3	61
Clinton	66,000	47,500	130	6,180	18,000	20.6	371
Eaton	61,000	59,500	138	8,220	1,200	19.2	23
Hillsdale	71,000	66,200	115	7,630	4,200	14.3	60
Ingham	49,000	46,000	141	6,490	2,500	15.2	38
Ionia	71,000	63,000	145	9,160	7,300	21.5	157
Jackson	53,000	49,500	121	6,000	3,400	17.6	60
St Joseph	84,000	83,000	114	9,440	900	15.6	14
Shiawassee	47,000	44,300	134	5,950	2,500	17.6	44
South Central	690,000	634,000	126	80,000	52,000	19.0	990
Genesee	29,000	27,900	132	3,680	1,000	19.0	19
Lapeer	43,000	39,300	137	5,390	3,600	20.8	75
Lenawee	96,000	89,000	124	11,000	6,300	18.6	117
Livingston	25,000	23,200	131	3,050	1,600	15.0	24
Macomb	11,000	10,200	132	1,350			
Monroe	59,000	58,000	124	7,200			
St Clair	26,000	24,800	133	3,290	1,000	13.0	13
Washtenaw	43,000	40,000	116	4,640	2,900	15.9	46
Other counties ²	8,000	7,600	105	800	1,600	13.1	21
Southeast	340,000	320,000	126	40,400	18,000	17.5	315
Michigan	2,200,000	1,950,000	130	253,500	235,000	17.5	4,113

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Corn: Acreage, yield, and production, by county, 2000 ¹

County and district	Planted for all purposes	2000					
		Grain			Silage		
		Harvested	Yield	Production	Harvested	Yield	Production
<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>	<i>Acres</i>	<i>Tons</i>	<i>1,000 Tons</i>	
Upper Peninsula	19,000	8,900	104	930	10,000	10.0	100
Grand Traverse	7,400	5,900	86	510	1,400	11.4	16
Manistee	1,800	1,250	76	95			
Missaukee	14,500	7,800	120	935			
Other counties ²	19,300	13,750	88	1,210	12,600	10.6	134
Northwest	43,000	28,700	96	2,750	14,000	10.7	150
Alpena	6,000	4,900	97	475	1,100	13.2	15
Montmorency	2,300	1,900	105	200			
Ogemaw	9,000	5,700	118	670	3,200	13.4	43
Other counties ²	17,700	12,300	106	1,305	5,700	11.0	63
Northeast	35,000	24,800	107	2,650	10,000	12.0	120
Mason	10,300	8,000	89	710	2,200	10.7	24
Muskegon	17,200	13,600	88	1,200	3,500	9.1	32
Newaygo	24,200	17,600	110	1,930	6,500	11.2	73
Other counties ²	11,300	8,400	85	710	2,800	7.7	22
West Central	63,000	47,600	96	4,550	15,000	10.0	150
Gratiot	81,000	73,700	127	9,340	6,900	18.1	125
Isabella	39,000	31,500	116	3,640	7,400	12.8	95
Mecosta	17,500	14,200	110	1,560	3,200	13.1	42
Midland	22,000	21,500	130	2,800			
Montcalm	52,000	45,500	109	4,940	6,200	16.1	100
Osceola	7,500	3,300	103	340	4,200	12.1	51
Other counties ²	11,000	8,300	82	680	3,100	11.9	37
Central	230,000	198,000	118	23,300	31,000	14.5	450
Arenac	18,000	15,700	129	2,030			
Bay	43,000	41,500	137	5,670			
Huron	123,000	103,000	132	13,600	19,500	14.7	286
Saginaw	83,000	79,600	129	10,250			
Sanilac	93,000	78,200	132	10,300	14,400	14.4	207
Tuscola	80,000	76,000	134	10,150	3,600	13.6	49
Other counties ²					6,500	15.1	98
East Central	440,000	394,000	132	52,000	44,000	14.5	640
Allegan	74,000	66,500	119	7,900	7,100	15.5	110
Berrien	45,000	44,300	126	5,600			
Cass	68,000	66,700	118	7,900			
Kalamazoo	53,000	49,900	110	5,500	2,700	13.7	37
Kent	40,000	31,800	116	3,700	8,000	19.8	158
Ottawa	39,000	31,100	106	3,300	7,700	15.3	118
Van Buren	31,000	29,700	128	3,800			
Other counties ²					2,500	10.8	27
Southwest	350,000	320,000	118	37,700	28,000	16.1	450

See footnote(s) at end of table.

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Corn: Acreage, yield, and production, by county, 2000 ¹ (continued)

County and district	Planted for all purposes	2000					
		Grain			Silage		
		Harvested	Yield	Production	Harvested	Yield	Production
<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>	<i>Acres</i>	<i>Tons</i>	<i>1,000 Tons</i>	
Barry	38,000	31,500	125	3,950	6,400	15.2	97
Branch	83,000	80,800	126	10,200			
Calhoun	71,000	66,900	114	7,650	3,800	13.7	52
Clinton	68,000	51,400	128	6,600	16,400	16.5	271
Eaton	59,000	57,500	134	7,700	1,200	15.8	19
Hillsdale	67,000	62,600	113	7,050	4,000	14.3	57
Ingham	49,000	46,200	137	6,350	2,500	13.6	34
Ionia	69,000	61,900	133	8,250	6,900	15.5	107
Jackson	53,000	49,300	115	5,650	3,500	13.7	48
St Joseph	85,000	83,600	141	11,800			
Shiawassee	48,000	45,300	121	5,500	2,500	12.8	32
Other counties ²					2,800	15.4	43
South Central	690,000	637,000	127	80,700	50,000	15.2	760
Genesee	30,000	28,900	112	3,250			
Lapeer	41,000	37,500	129	4,850	3,400	13.2	45
Lenawee	95,000	88,200	134	11,800	6,600	15.2	100
Livingston	24,000	22,400	116	2,600			
Macomb	9,000	8,200	110	900			
Monroe	57,000	56,000	145	8,100	800	18.8	15
St Clair	25,000	23,900	111	2,650	1,000	11.0	11
Washtenaw	42,000	39,100	124	4,850	2,800	16.1	45
Other counties ²	7,000	6,800	103	700	3,400	12.9	44
Southeast	330,000	311,000	128	39,700	18,000	14.4	260
Michigan	2,200,000	1,970,000	124	244,280	220,000	14.0	3,080

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Dry edible beans, all: Acreage, yield, and production, by county, 1999-2000 ¹

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Pounds</i>	<i>1,000 cwt</i>	<i>Acres</i>	<i>Acres</i>	<i>Pounds</i>	<i>1,000 cwt</i>
Alcona	1,400	1,400	1,570	22				
Alpena	2,000	2,000	1,100	22				
Presque Isle	1,950	1,950	2,150	42	2,000	2,000	1,150	23
Other counties ²	1,550	1,550	1,480	23	4,300	4,300	1,230	53
Northeast	6,900	6,900	1,580	109	6,300	6,300	1,210	76
Gladwin					1,200	1,200	1,170	14
Gratiot	31,500	31,500	2,160	680	23,800	23,600	1,550	365
Isabella	5,300	5,300	1,620	86	6,000	5,900	1,340	79
Midland	5,200	5,200	2,020	105	5,200	5,200	1,670	87
Montcalm	16,800	16,800	1,680	282	17,700	17,500	2,550	446
Other counties ²	4,200	4,200	2,310	97	2,100	2,100	1,380	29
Central	63,000	63,000	1,980	1,250	56,000	55,500	1,840	1,020
Arenac	11,000	11,000	1,640	180	8,800	8,700	1,570	137
Bay	34,500	34,500	1,940	670	26,600	26,400	1,610	425
Huron	107,000	107,000	2,360	2,520	91,500	86,700	1,420	1,230
Saginaw	19,500	19,500	2,210	430	11,400	11,400	1,580	180
Sanilac	30,000	30,000	2,120	635	18,700	17,000	1,310	223
Tuscola	60,000	60,000	2,090	1,255	49,000	47,800	1,370	655
East Central	262,000	262,000	2,170	5,690	206,000	198,000	1,440	2,850
Kent	3,500	3,500	1,400	49				
Other counties ²	600	600	1,500	9				
Southwest	4,100	4,100	1,410	58				
Clinton	1,250	1,250	1,760	22				
Eaton	2,100	2,100	2,380	50				
Other counties ²	4,050	4,050	1,680	68				
South Central	7,400	7,400	1,890	140				
Lapeer					1,000	1,000	1,400	14
St Clair	1,400	1,400	1,570	22				
Other counties ²	3,300	3,300	1,670	55	1,700	1,700	1,410	24
Southeast	4,700	4,700	1,640	77	2,700	2,700	1,410	38
Other districts ²	1,900	1,900	1,370	26	14,000	12,500	1,130	141
Michigan	350,000	350,000	2,100	7,350	285,000	275,000	1,500	4,125

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Dry edible beans, navy: Acreage, yield, and production, by county, 1999-2000 ¹

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Pounds</i>	<i>1,000 cwt</i>	<i>Acres</i>	<i>Acres</i>	<i>Pounds</i>	<i>1,000 cwt</i>
Gratiot	10,500	10,500	2,380	250	6,600	6,600	1,890	125
Isabella	1,400	1,400	1,140	16	1,700	1,700	1,650	28
Midland	2,400	2,400	2,130	51				
Montcalm	800	800	2,750	22				
Other counties ²	16,000	16,000	2,250	360	11,000	11,000	1,820	200
Central	16,000	16,000	2,250	360	11,000	11,000	1,820	200
Arenac	2,500	2,500	1,600	40	1,800	1,800	1,670	30
Bay	12,500	12,500	2,000	250	7,600	7,600	1,840	140
Huron	62,000	62,000	2,550	1,580	61,500	58,500	1,410	825
Saginaw	8,000	8,000	2,380	190	5,400	5,400	1,940	105
Sanilac	12,000	12,000	2,040	245	7,700	6,700	1,420	95
Tuscola	31,000	31,000	2,180	675	26,000	25,000	1,380	345
East Central	128,000	128,000	2,330	2,980	110,000	105,000	1,470	1,540
Eaton	700	700	2,140	15				
Other counties ²	900	900	1,890	17				
South Central	1,600	1,600	2,000	32				
Southeast	2,500	2,500	1,800	45				
Other districts ²	1,900	1,900	1,740	33	4,000	4,000	1,500	60
Michigan	150,000	150,000	2,300	3,450	125,000	120,000	1,500	1,800

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Dry edible beans, other: Acreage, yield, and production, by county, 1999-2000 ¹

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Pounds</i>	<i>1,000 cwt</i>	<i>Acres</i>	<i>Acres</i>	<i>Pounds</i>	<i>1,000 cwt</i>
Northeast	5,300	5,300	1,530	81				
Gratiot	21,000	21,000	2,050	430	17,200	17,000	1,410	240
Isabella	3,900	3,900	1,790	70	4,300	4,200	1,210	51
Midland	2,800	2,800	1,930	54				
Montcalm	16,000	16,000	1,630	260				
Other counties ²	3,300	3,300	2,300	76	23,500	23,300	2,270	529
Central	47,000	47,000	1,890	890	45,000	44,500	1,840	820
Arenac	8,500	8,500	1,650	140	7,000	6,900	1,550	107
Bay	22,000	22,000	1,910	420	19,000	18,800	1,520	285
Huron	45,000	45,000	2,090	940	30,000	28,200	1,440	405
Saginaw	11,500	11,500	2,090	240	6,000	6,000	1,250	75
Sanilac	18,000	18,000	2,170	390	11,000	10,300	1,240	128
Tuscola	29,000	29,000	2,000	580	23,000	22,800	1,360	310
East Central	134,000	134,000	2,020	2,710	96,000	93,000	1,410	1,310
Southwest	3,800	3,800	1,390	53				
Eaton	1,400	1,400	2,500	35				
Other counties ²	4,400	4,400	1,660	73				
South Central	5,800	5,800	1,860	108				
Southeast	2,200	2,200	1,450	32				
Other districts ²	1,900	1,900	1,370	26	19,000	17,500	1,110	195
Michigan	200,000	200,000	1,950	3,900	160,000	155,000	1,500	2,325

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Hay: Acreage, yield, and production, by county, 1999-2000 ¹

County and district	1999			2000		
	Harvested	Yield	Production	Harvested	Yield	Production
	<i>Acres</i>	<i>Tons</i>	<i>1,000 Tons</i>	<i>Acres</i>	<i>Tons</i>	<i>1,000 Tons</i>
Alger	5,500	2.2	12	4,500	2.7	12
Baraga	5,500	1.8	10	5,500	1.3	7
Chippewa	46,500	2.5	117	42,000	1.8	75
Delta	22,000	2.8	62	20,000	2.4	47
Dickinson	5,000	1.8	9	5,500	1.8	10
Gogebic	1,400	1.4	2			
Houghton	6,500	2.3	15	7,500	1.2	9
Iron	7,500	2.1	16	8,000	1.9	15
Mackinac	10,000	2.5	25	8,500	1.9	16
Marquette	4,500	1.6	7			
Menominee	31,000	4.0	125	33,000	2.9	95
Ontonagon	11,000	2.7	30	11,000	1.4	15
Schoolcraft	5,000	1.4	7			
Other counties ²	3,600	3.6	13	14,500	1.3	19
Upper Peninsula	165,000	2.7	450	160,000	2.0	320
Antrim	14,000	1.9	27	12,500	3.2	40
Benzie	2,000	2.5	5	2,000	2.5	5
Charlevoix	10,000	2.5	25	10,500	3.2	34
Emmet	14,000	2.9	40	13,000	2.3	30
Grand Traverse	13,000	2.3	30	12,500	2.4	30
Kalkaska	4,500	1.8	8	4,000	2.3	9
Leelanau	7,500	2.7	20	8,500	2.5	21
Manistee	7,000	2.1	15	7,000	2.1	15
Missaukee	32,000	4.2	135	33,000	4.2	140
Wexford	11,000	2.7	30	12,000	2.6	31
Northwest	115,000	2.9	335	115,000	3.1	355
Alcona	16,500	2.1	35	17,500	2.3	40
Alpena	22,500	2.4	55	24,500	3.3	80
Cheboygan	12,500	2.6	33	15,000	2.3	35
Iosco	13,000	2.7	35	13,500	2.6	35
Montmorency	5,500	2.7	15	5,700	4.4	25
Ogemaw	26,000	4.6	120	25,500	5.3	135
Oscoda	3,200	1.6	5	3,800	2.4	9
Otsego	9,000	1.6	14	9,000	2.2	20
Presque Isle	19,500	2.6	50	18,000	2.2	40
Other counties ²	2,300	1.3	3	2,500	2.4	6
Northeast	130,000	2.8	365	135,000	3.1	425
Lake	8,500	1.6	14			
Mason	14,000	4.3	60	17,000	2.9	50
Muskegon	10,500	5.0	52	10,500	3.8	40
Newaygo	31,000	3.6	113	29,000	3.6	105
Oceana	16,000	2.6	41			
Other counties ²				23,500	2.6	60
West Central	80,000	3.5	280	80,000	3.2	255
Clare	22,000	3.5	76	21,000	3.0	63
Gladwin	19,000	2.8	53	22,000	2.7	59
Gratiot	13,000	4.8	62	13,000	4.1	53
Isabella	43,000	3.6	153	42,000	3.5	145
Mecosta	34,000	2.8	95	32,000	3.1	100
Midland	6,000	2.7	16	6,000	2.5	15
Montcalm	29,500	4.4	129	27,000	3.3	90
Osceola	43,500	2.9	126	47,000	2.9	135
Central	210,000	3.4	710	210,000	3.1	660

See footnote(s) at end of table.

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Hay: Acreage, yield, and production, by county, 1999-2000 ¹ (continued)

County and district	1999			2000		
	Harvested	Yield	Production	Harvested	Yield	Production
	<i>Acres</i>	<i>Tons</i>	<i>1,000 Tons</i>	<i>Acres</i>	<i>Tons</i>	<i>1,000 Tons</i>
Arenac	8,500	3.5	30	8,500	2.9	25
Bay	6,000	3.5	21	8,500	4.1	35
Huron	26,000	4.4	115	29,500	4.9	145
Saginaw	8,500	5.2	44	9,500	4.2	40
Sanilac	52,000	4.0	210	51,000	4.3	220
Tuscola	19,000	3.9	75	23,000	4.1	95
East Central	120,000	4.1	495	130,000	4.3	560
Allegan	23,000	4.1	94	24,500	4.3	105
Berrien	8,000	3.1	25	7,500	4.0	30
Cass	12,000	2.9	35	12,000	2.9	35
Kalamazoo	8,500	2.9	25	9,000	2.8	25
Kent	32,000	4.1	130	31,000	4.2	130
Ottawa	28,000	4.6	130	26,000	3.7	95
Van Buren	13,500	3.0	41	15,000	3.0	45
Southwest	125,000	3.8	480	125,000	3.7	465
Barry	26,000	3.7	96	29,000	3.1	90
Branch	11,500	3.9	45	11,500	4.3	50
Calhoun	20,500	3.4	70	19,000	3.2	60
Clinton	29,000	3.8	110	24,000	5.4	130
Eaton	15,500	2.9	45	16,000	3.4	55
Hillsdale	21,000	3.6	76	20,000	3.3	66
Ingham	19,500	4.1	80	18,000	4.7	85
Ionia	25,500	4.7	120	26,000	4.6	120
Jackson	23,000	3.7	86	22,000	4.5	100
St Joseph	13,000	3.5	45	13,000	3.5	45
Shiawassee	15,500	3.7	57	16,500	3.9	64
South Central	220,000	3.8	830	215,000	4.0	865
Genesee	11,500	3.8	44	11,000	3.1	34
Lapeer	31,000	3.5	110	31,500	3.3	105
Lenawee	14,000	5.0	70	11,000	4.5	50
Livingston	12,000	3.2	38	11,500	3.0	35
Macomb	6,000	2.7	16	5,000	3.0	15
Monroe	4,500	3.6	16	4,500	4.0	18
Oakland	7,800	2.6	20	8,000	2.9	23
St Clair	25,000	2.9	72	24,000	2.7	65
Washtenaw	22,000	3.7	81	22,000	3.4	75
Wayne	1,200	2.5	3	1,500	3.3	5
Southeast	135,000	3.5	470	130,000	3.3	425
Michigan	1,300,000	3.4	4,415	1,300,000	3.3	4,330

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Oats: Acreage, yield, and production, by county, 1999-2000 ¹

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>
Chippewa	3,100	2,400	41	98	2,200	2,000	50	100
Delta	1,900	1,500	65	98	1,800	1,500	66	99
Dickinson	1,000	850	60	51	800	500	60	30
Iron	650	550	40	22	700	500	36	18
Mackinac	650	400	53	21				
Menominee	2,500	1,700	45	76	2,300	2,000	56	112
Ontonagon	950	700	41	29	750	550	56	31
Schoolcraft	750	600	90	54				
Other counties ²	1,500	1,300	39	51	2,450	1,950	41	80
Upper Peninsula	13,000	10,000	50	500	11,000	9,000	52	470
Antrim	500	400	55	22				
Emmet	750	650	66	43	1,100	950	57	54
Grand Traverse	1,900	1,700	61	103	2,600	2,200	76	168
Leelanau	500	400	48	19				
Missaukee	1,450	1,200	64	77	1,650	1,400	51	71
Wexford	650	400	45	18	900	700	40	28
Other counties ²	750	550	51	28	2,250	1,750	57	99
Northwest	6,500	5,300	58	310	8,500	7,000	60	420
Alcona	1,050	500	68	34	1,000	800	76	61
Alpena	3,500	2,700	58	157	3,700	3,100	71	220
Cheboygan	650	450	49	22				
Iosco	1,750	1,400	81	113	1,350	1,100	67	74
Ogemaw	2,600	1,500	72	108	2,800	2,000	75	150
Otsego	700	500	52	26	900	750	68	51
Presque Isle	4,300	3,600	53	190	4,100	3,400	78	265
Other counties ²	450	350	43	15	1,150	850	46	39
Northeast	15,000	11,000	60	665	15,000	12,000	72	860
Mason	1,350	1,100	66	73	1,200	1,100	54	59
Muskegon	900	750	61	46				
Newaygo	1,400	1,100	79	87	1,400	1,200	63	76
Oceana					600	500	36	18
Other counties ²	850	650	52	34	800	700	39	27
West Central	4,500	3,600	67	240	4,000	3,500	51	180
Clare	1,400	1,100	57	63	900	650	51	33
Gladwin	1,100	900	78	70	1,100	900	39	35
Isabella	3,300	2,300	67	153	2,600	2,100	71	150
Mecosta	1,700	1,400	54	75	1,400	1,100	59	65
Montcalm	2,500	1,800	41	74	2,700	1,900	58	110
Osceola	1,050	800	69	55	1,100	900	37	33
Other counties ²	1,450	1,100	82	90	1,200	950	78	74
Central	12,500	9,400	62	580	11,000	8,500	59	500
Arenac	1,850	1,300	84	109	1,900	1,500	55	83
Bay	800	650	92	60	900	700	63	44
Huron	4,500	2,800	86	241	3,800	2,600	67	175
Saginaw	1,150	950	92	87	1,300	1,000	63	63
Sanilac	7,100	5,300	85	448	6,800	5,400	80	430
Tuscola	2,600	2,000	68	135	2,300	1,800	83	150
East Central	18,000	13,000	83	1,080	17,000	13,000	73	945

See footnote(s) at end of table.

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Oats: Acreage, yield, and production, by county, 1999-2000 ¹ (continued)

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>
Allegan	1,700	1,300	60	78	1,650	1,400	61	85
Cass	600	500	40	20	750	650	35	23
Kalamazoo					900	800	73	58
Kent	2,000	1,700	68	116	1,900	1,700	46	79
Ottawa	1,400	1,100	79	87	1,500	1,300	72	94
Van Buren	900	750	43	32				
Other counties ²	900	650	57	37	1,300	1,150	44	51
Southwest	7,500	6,000	62	370	8,000	7,000	56	390
Barry	900	400	58	23				
Branch					800	600	75	45
Calhoun	1,300	900	46	41	1,200	1,100	70	77
Clinton	1,250	950	68	65	1,000	850	81	69
Eaton	950	750	76	57	800	650	77	50
Hillsdale	1,000	800	68	54	1,000	800	63	50
Ionia	1,950	1,500	77	116	1,400	1,200	71	85
Jackson	1,500	1,100	61	67	1,450	1,100	55	60
St Joseph	850	200	45	9				
Shiawassee	2,100	1,600	71	114	1,900	1,600	72	115
Other counties ²	1,200	800	68	54	1,450	1,100	63	69
South Central	13,000	9,000	67	600	11,000	9,000	69	620
Genesee	900	750	64	48				
Lapeer	2,400	1,800	67	120	2,300	1,400	75	105
Lenawee	1,450	1,200	93	112	1,700	1,000	71	71
Livingston	600	450	53	24				
Macomb	500	350	63	22				
Monroe	850	700	86	60	1,000	700	80	56
St Clair	1,400	900	68	61	1,000	700	61	43
Washtenaw	1,550	1,300	55	71	1,600	1,000	70	70
Other counties ²	350	250	48	12	1,900	1,200	58	70
Southeast	10,000	7,700	69	530	9,500	6,000	69	415
Michigan	100,000	75,000	65	4,875	95,000	75,000	64	4,800

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Potatoes: Acreage, yield, and production, by county, 1999-2000 ¹

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Cwt</i>	<i>1,000 Cwt</i>	<i>Acres</i>	<i>Acres</i>	<i>Cwt</i>	<i>1,000 Cwt</i>
Delta	1,000	950	305	290	900	850	305	260
Dickinson	700	700	270	190	500	500	300	150
Luce	500	500	280	140	500	500	300	150
Marquette	500	500	280	140	700	650	260	170
Other counties ²	600	600	250	150	600	600	285	170
Upper Peninsula	3,300	3,250	280	910	3,200	3,100	290	900
Antrim					1,500	1,500	235	350
Kalkaska					1,100	1,100	345	380
Other counties ²					300	300	265	80
Northwest					2,900	2,900	280	810
Otsego	600	600	250	150				
Presque Isle	2,500	2,500	250	620	2,100	2,050	260	535
Other counties ²	100	100	200	20	800	750	285	215
Northeast	3,200	3,200	245	790	2,900	2,800	270	750
Gratiot					550	550	300	165
Isabella	600	600	350	210	900	900	345	310
Mecosta	2,500	2,500	390	970	3,800	3,700	380	1,400
Montcalm	13,200	13,100	340	4,450	12,800	12,400	355	4,400
Other counties ²	200	200	350	70	450	450	345	155
Central	16,500	16,400	350	5,700	18,500	18,000	355	6,430
Arenac	700	700	245	170	500	500	330	165
Bay	3,800	3,600	305	1,100	4,000	3,800	240	920
Huron	700	700	285	200	1,000	1,000	205	205
Saginaw	900	900	280	250	900	850	260	220
Sanilac	1,300	1,200	250	300	600	500	240	120
Tuscola	2,900	2,900	305	880	1,900	1,850	275	510
East Central	10,300	10,000	290	2,900	8,900	8,500	250	2,140
Allegan	900	900	300	270	1,000	900	265	240
Cass					700	700	300	210
Kalamazoo	700	700	330	230	500	500	300	150
Other counties ²	800	800	340	270	300	300	335	100
Southwest	2,400	2,400	320	770	2,500	2,400	290	700
Branch					650	650	310	200
Ionia					600	600	300	180
St Joseph	5,800	5,750	320	1,850	4,800	4,700	350	1,640
Other counties ²	1,000	1,000	350	350	1,250	1,250	315	395
South Central	6,800	6,750	325	2,200	7,300	7,200	335	2,415
Genesee	600	600	335	200				
Monroe	900	900	335	300				
Other counties ²	800	800	340	270				
Southeast	2,300	2,300	335	770				
Other districts ²	3,200	3,200	290	923	2,800	2,600	315	818
Michigan	48,000	47,500	315	14,963	49,000	47,500	315	14,963

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Soybeans: Acreage, yield, and production, by county, 1999-2000 ¹

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>
Iosco	1,300	1,200	45	54				
Ogemaw					600	600	35	21
Other counties ²	2,700	2,600	31	81	4,600	4,400	36	159
Northeast	4,000	3,800	36	135	5,200	5,000	36	180
Mason					1,500	1,400	31	43
Muskegon	5,000	4,900	39	190	6,300	6,000	28	170
Newaygo	3,900	3,800	35	133	4,700	4,600	30	140
Oceana	1,900	1,900	31	58				
Other counties ²	1,200	1,200	33	39	2,500	2,500	27	67
West Central	12,000	11,800	36	420	15,000	14,500	29	420
Gladwin	2,100	2,100	33	70	3,600	3,600	29	105
Gratiot	80,000	79,800	45	3,600	84,000	82,000	34	2,800
Isabella	31,500	31,400	44	1,380	39,000	39,000	36	1,420
Midland	23,500	23,400	41	960	24,500	24,000	38	900
Montcalm	16,000	15,900	43	690	16,500	16,500	32	530
Other counties ²	1,900	1,900	37	70	2,400	1,900	29	55
Central	155,000	154,500	44	6,770	170,000	167,000	35	5,810
Arenac	11,000	11,000	36	400	14,000	13,000	35	460
Bay	34,000	33,900	44	1,500	45,000	45,000	38	1,710
Huron	35,000	34,900	40	1,400	47,000	47,000	39	1,850
Saginaw	117,000	116,600	41	4,800	118,000	116,000	34	4,000
Sanilac	109,000	108,700	44	4,750	129,000	127,000	38	4,770
Tuscola	64,000	63,900	40	2,550	77,000	77,000	39	3,010
East Central	370,000	369,000	42	15,400	430,000	425,000	37	15,800
Allegan	41,000	40,900	43	1,750	47,000	46,000	31	1,440
Berrien	50,000	49,400	37	1,820	50,000	50,000	31	1,530
Cass	50,000	49,800	30	1,500	51,000	50,000	34	1,710
Kalamazoo	40,000	39,900	34	1,350	38,000	38,000	38	1,450
Kent	17,000	17,000	48	810	22,000	22,000	30	670
Ottawa	15,000	15,000	40	600	22,000	22,000	33	730
Van Buren	27,000	27,000	33	900	30,000	29,000	35	1,020
Southwest	240,000	239,000	37	8,730	260,000	257,000	33	8,550
Barry	31,000	30,900	41	1,260	32,000	32,000	37	1,180
Branch	65,000	64,800	36	2,350	72,000	71,000	38	2,680
Calhoun	64,000	63,800	34	2,150	66,000	66,000	39	2,550
Clinton	78,000	77,800	42	3,300	80,000	79,000	36	2,810
Eaton	72,000	71,800	45	3,200	75,000	74,000	36	2,670
Hillsdale	71,000	70,800	36	2,550	73,000	72,000	34	2,460
Ingham	55,000	52,700	45	2,350	58,000	58,000	43	2,470
Ionia	59,000	58,800	47	2,750	65,000	65,000	37	2,420
Jackson	40,000	39,900	39	1,550	43,000	43,000	38	1,630
St Joseph	52,000	51,000	38	1,950	53,000	53,000	39	2,080
Shiawassee	88,000	87,700	40	3,550	88,000	87,000	32	2,750
South Central	675,000	670,000	40	26,960	705,000	700,000	37	25,700

See footnote(s) at end of table.

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Soybeans: Acreage, yield, and production, by county, 1999-2000 ¹ (continued)

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>
Genesee	42,000	41,900	38	1,600	43,000	43,000	33	1,400
Lapeer	39,000	38,900	42	1,650	46,000	46,000	38	1,740
Lenawee	134,000	133,600	40	5,350	135,000	134,000	38	5,040
Livingston	20,000	19,900	41	820	22,000	22,000	40	890
Macomb	24,000	23,900	40	950	25,000	24,000	30	720
Monroe	103,000	102,000	35	3,550	110,000	109,000	39	4,230
St Clair	67,000	66,900	43	2,850	70,000	70,000	30	2,130
Washtenaw	48,000	47,900	40	1,900	48,000	48,000	38	1,830
Other counties ²	13,000	13,000	33	430	11,000	11,000	29	320
Southeast	490,000	488,000	39	19,100	510,000	507,000	36	18,300
Other districts ²	4,000	3,900	22	85	4,800	4,500	27	120
Michigan	1,950,000	1,940,000	40	77,600	2,100,000	2,080,000	36	74,880

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Sugarbeets: Acreage, yield, and production, by county, 1999-2000 ¹

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Tons</i>	<i>1,000 Tons</i>	<i>Acres</i>	<i>Acres</i>	<i>Tons</i>	<i>1,000 Tons</i>
Gladwin	1,600	1,600	16	25	1,600	1,400	16	23
Gratiot	21,500	20,500	18	375	21,800	15,500	20	302
Isabella	2,700	2,200	16	35	2,500	2,300	19	44
Midland	4,400	4,100	17	68	4,000	3,600	18	66
Montcalm	1,300	1,200	21	25				
Other counties ²	200	200	20	4	1,600	1,400	21	30
Central	31,700	29,800	18	532	31,500	24,200	19	465
Arenac	5,000	5,000	16	80	5,000	5,000	17	85
Bay	21,500	21,000	18	380	20,500	18,500	18	340
Huron	58,000	57,500	19	1,110	57,000	51,500	21	1,080
Saginaw	21,000	20,500	18	375	20,000	17,500	22	385
Sanilac	21,500	21,500	19	400	21,500	19,000	21	400
Tuscola	31,000	30,500	19	590	28,000	26,000	21	550
East Central	158,000	156,000	19	2,935	152,000	137,500	21	2,840
Clinton	500	500	16	8				
South Central	500	500	16	8				
Genesee					900	800	21	17
Lenawee	1,300	1,250	17	21	1,300	900	22	20
St Clair	1,200	1,200	18	21	1,600	1,300	19	25
Other counties ²	1,000	950	15	14	700	500	34	17
Southeast	3,500	3,400	17	56	4,500	3,500	23	79
Other districts ²	300	300	10	3	1,000	800	24	19
Michigan	194,000	190,000	19	3,534	189,000	166,000	21	3,403

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Wheat: Acreage, yield, and production, by county, 1999-2000 ¹

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>
Upper Peninsula	1,500	1,400	50	70	2,000	1,900	32	60
Grand Traverse	2,200	2,200	50	110	1,650	1,550	48	75
Other counties ²	2,300	2,000	58	115	1,850	1,650	55	90
Northwest	4,500	4,200	54	225	3,500	3,200	52	165
Alpena	2,100	2,000	53	105				
Iosco	1,900	1,900	82	155				
Montmorency	800	800	64	51	800	800	93	74
Ogemaw	1,200	1,200	88	105	700	600	83	50
Presque Isle	2,400	2,200	59	130	1,900	1,600	66	105
Other counties ²	1,100	1,100	63	69	4,600	4,300	64	276
Northeast	9,500	9,200	67	615	8,000	7,300	69	505
Mason	4,400	4,300	48	205	4,300	3,700	57	210
Muskegon					1,500	1,200	50	60
Newaygo	1,700	1,600	53	85	1,800	1,100	64	70
Oceana	2,000	1,900	55	105				
Other counties ²	1,400	1,400	61	85	1,900	1,600	56	90
West Central	9,500	9,200	52	480	9,500	7,600	57	430
Clare					900	900	67	60
Gladwin	2,100	2,100	76	160	1,900	1,600	56	90
Gratiot	15,000	15,000	79	1,190	16,000	14,700	78	1,150
Isabella	13,000	13,000	74	960	14,000	14,000	69	965
Mecosta	2,100	2,100	52	110				
Midland	3,200	3,200	73	235	3,000	3,000	80	240
Montcalm	19,000	19,000	68	1,300	17,000	15,700	69	1,090
Other counties ²	1,600	1,600	66	105	2,200	2,100	50	105
Central	56,000	56,000	73	4,060	55,000	52,000	71	3,700
Arenac	5,400	5,400	81	440	6,000	6,000	78	465
Bay	7,100	6,900	81	560	6,000	5,500	88	485
Huron	48,000	47,300	79	3,750	38,000	36,800	87	3,200
Saginaw	28,500	28,100	80	2,250	26,000	25,900	80	2,060
Sanilac	54,000	53,500	76	4,050	45,000	44,800	79	3,560
Tuscola	27,000	26,800	75	2,000	19,000	19,000	86	1,630
East Central	170,000	168,000	78	13,050	140,000	138,000	83	11,400
Allegan	10,000	9,900	60	590	10,000	7,500	67	505
Berrien	6,000	5,900	44	260	5,000	3,500	54	190
Cass	6,800	3,300	45	150	7,000	2,000	58	115
Kalamazoo	6,300	6,200	48	300	5,700	4,200	63	265
Kent	6,500	6,400	64	410	6,500	5,000	69	345
Ottawa	6,300	6,200	56	350	6,000	4,500	58	260
Van Buren	2,100	1,100	36	40	1,800	1,300	54	70
Southwest	44,000	39,000	54	2,100	42,000	28,000	63	1,750

See footnote(s) at end of table.

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Wheat: Acreage, yield, and production, by county, 1999-2000 ¹ (continued)

County and district	1999				2000			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>	<i>Acres</i>	<i>Acres</i>	<i>Bushels</i>	<i>1,000 Bu</i>
Barry	9,700	9,500	63	600	8,900	8,900	62	550
Branch	8,800	8,800	56	490	6,300	6,300	52	330
Calhoun	13,500	13,400	52	700	12,000	12,000	55	660
Clinton	25,500	25,400	74	1,880	22,000	21,900	72	1,570
Eaton	20,500	20,400	71	1,450	18,000	18,000	65	1,170
Hillsdale	15,000	14,900	58	860	11,500	11,500	63	720
Ingham	19,000	18,900	69	1,300	14,000	14,000	74	1,030
Ionia	20,000	19,900	72	1,430	16,000	16,000	69	1,100
Jackson	11,000	11,000	57	630	9,000	8,900	56	500
St Joseph	3,000	3,000	47	140	2,300	2,300	61	140
Shiawassee	34,000	33,800	66	2,220	30,000	29,200	66	1,930
South Central	180,000	179,000	65	11,700	150,000	149,000	65	9,700
Genesee	11,000	10,900	64	700	9,900	9,600	73	700
Lapeer	9,500	9,400	68	640	7,600	7,500	73	550
Lenawee	40,000	39,700	71	2,800	37,000	35,700	73	2,590
Livingston	8,000	7,900	63	500	7,000	6,900	78	540
Macomb	5,100	5,100	59	300	4,800	4,800	77	370
Monroe	25,500	25,300	73	1,850	23,500	18,600	82	1,520
Oakland	2,400	2,400	56	135				
St Clair	15,500	15,400	69	1,070	13,000	12,800	72	920
Washtenaw	17,000	16,900	62	1,050	15,000	14,900	66	980
Wayne	1,000	1,000	55	55				
Other counties ²					2,200	2,200	55	120
Southeast	135,000	134,000	68	9,100	120,000	113,000	73	8,290
Michigan	610,000	600,000	69	41,400	530,000	500,000	72	36,000

¹ Estimates not published for counties with less than 500 acres.

² Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Cattle: January 1, by county, 2000-2001 ¹

County and district	All cattle and calves		All cows that have calved		Milk cows		Beef cows	
	2000	2001	2000	2001	2000	2001	2000	2001
	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>
Alger	2,100	2,100	650	550				
Baraga	1,000	1,200	600	650				
Chippewa	8,600	8,200	3,000	2,600	1,000	900	2,000	1,700
Delta	8,000	10,200	3,800	3,800	2,000	1,900	1,800	1,900
Dickinson	2,300	2,000	1,400	1,150	700	650	700	500
Houghton	2,000	1,700	750	550				
Iron	2,100	2,100	1,000	800				
Luce	900	800						
Mackinac	2,600	2,600	1,200	1,100				
Marquette	2,200	1,900	1,200	1,000				
Menominee	18,500	17,000	8,500	7,900	6,700	6,500	1,800	1,400
Ontonagon	3,200	2,600	1,500	1,250	700	550	800	700
Schoolcraft	1,200	1,200	500					
Other counties ²	300	400	400	650	3,200	2,900	3,100	2,400
Upper Peninsula	55,000	54,000	24,500	22,000	14,300	13,400	10,200	8,600
Antrim	5,500	5,000	1,700	1,600	1,000	1,000	700	600
Benzie	1,700	1,200						
Charlevoix	2,800	3,500	1,450	1,250	750	650	700	600
Emmet	5,600	5,100	2,500	2,100	1,100	900	1,400	1,200
Grand Traverse	5,800	6,100	1,950	1,900	650	600	1,300	1,300
Kalkaska	1,100	1,000						
Leelanau	4,500	4,400	750	550				
Manistee	2,500	2,200	750	550				
Missaukee	23,000	22,000	10,800	9,800		9,300		500
Wexford	3,500	3,500	1,450	1,400	850	900	600	500
Other counties ²			650	550	11,350	850	1,600	800
Northwest	56,000	54,000	22,000	19,700	15,700	14,200	6,300	5,500
Alcona	5,000	4,800	2,200	2,000	700	700	1,500	1,300
Alpena	10,500	10,000	4,400	4,200	2,900	2,800	1,500	1,400
Cheboygan	5,000	4,500	2,050	1,850	1,350	1,350	700	500
Iosco	7,500	7,000	2,800	2,600	1,600	1,600	1,200	1,000
Montmorency	3,000	2,500	1,250	1,100				
Ogemaw	16,000	16,500	7,100	6,800	5,800	5,800	1,300	1,000
Oscoda	2,400	1,900	1,050	1,000				
Otsego	2,500	2,300	550	550				
Presque Isle	8,500	8,000	3,100	3,000	2,000	1,900	1,100	1,100
Other counties ²	600	500	100	100	1,650	1,550	1,300	1,200
Northeast	61,000	58,000	24,600	23,200	16,000	15,700	8,600	7,500
Lake	2,500	2,200	1,050	750				
Mason	9,000	8,500	3,600	3,450	2,800		800	
Muskegon	13,500	13,900	7,000	7,200		6,700		500
Newaygo	22,000	20,600	10,200	9,700	8,500	8,300	1,700	1,400
Oceana	10,000	9,800	3,650	3,600	2,850	2,900	800	700
Other counties ²					6,850	2,800	1,200	1,400
West Central	57,000	55,000	25,500	24,700	21,000	20,700	4,500	4,000
Clare	13,000	13,000	4,700	4,850	2,900	3,250	1,800	1,600
Gladwin	7,500	8,000	2,900	3,150	1,300	1,550	1,600	1,600
Gratiot	24,500	24,500	8,700	9,100	7,700	7,900	1,000	1,200
Isabella	30,000	27,500	12,100	11,500	9,100	8,900	3,000	2,600
Mecosta	16,500	16,500	7,100	6,700	4,800	4,800	2,300	1,900
Midland	4,500	4,000	1,200	1,100	600	600	600	500
Montcalm	22,000	21,000	11,700	12,100	10,100	10,500	1,600	1,600
Osceola	21,000	20,500	9,000	9,000	5,500	5,500	3,500	3,500
Central	139,000	135,000	57,400	57,500	42,000	43,000	15,400	14,500

See footnote(s) at end of table.

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Cattle: January 1, by county, 2000-2001 ¹ (continued)

County and district	All cattle and calves		All cows that have calved		Milk cows		Beef cows	
	2000	2001	2000	2001	2000	2001	2000	2001
	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>
Arenac	8,300	7,700	2,800	2,700				
Bay	4,200	4,000	1,700	1,600				
Huron	65,500	68,000	14,100	14,700	13,400	14,100	700	600
Saginaw	9,000	8,500	3,200	3,200				
Sanilac	56,000	53,000	22,800	21,700	20,500	19,800	2,300	1,900
Tuscola	19,000	18,800	7,500	7,500	5,400	5,500	2,100	2,000
Other counties ²					6,700	6,600	1,000	900
East Central	162,000	160,000	52,100	51,400	46,000	46,000	6,100	5,400
Allegan	40,000	38,000	17,300	17,000	15,200	15,200	2,100	1,800
Berrien	5,000	4,500	2,500	2,300	1,500	1,400	1,000	900
Cass	7,000	6,500	2,700	2,500	1,000	900	1,700	1,600
Kalamazoo	12,000	15,000	4,700	5,600	3,700	4,700	1,000	900
Kent	27,000	26,500	11,100	11,400	9,100	9,500	2,000	1,900
Ottawa	38,000	36,000	14,300	13,900	12,300	12,200	2,000	1,700
Van Buren	8,000	7,500	3,200	2,800	1,700	1,600	1,500	1,200
Southwest	137,000	134,000	55,800	55,500	44,500	45,500	11,300	10,000
Barry	25,500	25,000	11,200	10,900	8,600	8,800	2,600	2,100
Branch	20,000	17,500	5,800	6,600	4,000	4,900	1,800	1,700
Calhoun	20,000	19,000	7,500	7,200	4,900	4,900	2,600	2,300
Clinton	44,000	44,500	19,000	19,100	17,900	18,200	1,100	900
Eaton	16,000	14,500	5,800	5,200	2,400	2,500	3,400	2,700
Hillsdale	23,000	21,500	9,600	9,900	7,800	8,300	1,800	1,600
Ingham	18,000	18,000	7,200	7,500	5,500	5,900	1,700	1,600
Ionia	35,000	34,000	13,300	12,900	11,100	11,000	2,200	1,900
Jackson	21,000	20,500	7,000	7,000	4,400	4,300	2,600	2,700
St Joseph	10,000	9,000	4,000	3,700	2,500	2,400	1,500	1,300
Shiawassee	12,500	11,500	6,100	5,500	4,900	4,300	1,200	1,200
South Central	245,000	235,000	96,500	95,500	74,000	75,500	22,500	20,000
Genesee	8,000	7,200	2,500	2,500	1,700	1,700	800	800
Lapeer	21,500	20,000	7,800	7,500	5,500	5,300	2,300	2,200
Lenawee	19,500	17,500	9,900	9,500	8,400	8,200	1,500	1,300
Livingston	10,000	10,000	4,300	4,300	3,000	3,200	1,300	1,100
Macomb	3,500	5,500	1,000	1,000				
Monroe	6,000	5,700	1,200	1,200	600	600	600	600
Oakland	1,800	2,000						
St Clair	10,000	10,000	3,700	3,650	1,900	1,850	1,800	1,800
Washtenaw	17,000	16,500	5,500	5,200	4,500	4,200	1,000	1,000
Wayne	700	600						
Other counties ²			700	650	900	950	800	700
Southeast	98,000	95,000	36,600	35,500	26,500	26,000	10,100	9,500
Michigan	1,010,000	980,000	395,000	385,000	300,000	300,000	95,000	85,000

¹ Estimates are not published for counties with less than 500 head.

² Not published separately because of insufficient data or to avoid disclosure of individual operations.

Hogs and pigs: December 1, by county, 1999-2000 ¹

County and district	All hogs and pigs		County and district	All hogs and pigs	
	1999	2000		1999	2000
	<i>Head</i>	<i>Head</i>		<i>Head</i>	<i>Head</i>
Chippewa	600	900	Allegan	140,000	135,000
Other counties ²	900	600	Berrien	15,000	9,000
Upper Peninsula	1,500	1,500	Cass	140,000	170,000
Antrim	700		Kalamazoo	45,000	20,000
Benzie	1,000	1,000	Kent	7,000	10,000
Emmet	600		Ottawa	115,000	105,000
Grand Traverse	3,100	2,900	Van Buren	33,000	31,000
Kalkaska	800	1,850	Southwest	495,000	480,000
Manistee		700	Barry	16,000	13,000
Missaukee	1,800	1,300	Branch	60,000	68,000
Other counties ²	500	750	Calhoun	35,000	40,500
Northwest	8,500	8,500	Clinton	17,000	12,000
Other counties ²	1,600	1,700	Eaton	17,000	11,000
Northeast	1,600	1,700	Hillsdale	33,000	22,500
Lake	600		Ingham	8,000	5,000
Mason	800		Ionia	20,000	23,000
Muskegon	5,000	2,700	Jackson	7,000	3,500
Newaygo	11,000	21,000	St Joseph	35,000	28,500
Oceana	3,000	1,900	Shiawassee	2,000	3,000
Other counties ²		700	South Central	250,000	230,000
West Central	20,400	26,300	Genesee	3,500	2,900
Clare	4,000	3,600	Lapeer	3,000	2,200
Gladwin	2,500	1,900	Lenawee	10,500	12,000
Gratiot	19,000	33,500	Livingston	2,000	
Isabella	6,500	6,600	Macomb	4,000	2,800
Mecosta	10,000	15,000	Monroe	12,000	5,000
Midland	3,500	2,300	Oakland	500	
Montcalm	14,000	12,400	St Clair	3,000	4,800
Osceola	500	700	Washtenaw	19,000	4,700
Central	60,000	76,000	Wayne	500	
Arenac	1,000		Other counties ²		600
Bay	500		Southeast	58,000	35,000
Huron	65,000	65,500	Michigan	980,000	950,000
Saginaw	3,500	8,100			
Sanilac	7,000	4,500			
Tuscola	8,000	12,000			
Other counties ²		900			
East Central	85,000	91,000			

¹ Estimates are not published for counties with less than 500 hogs.

² Not published separately because of insufficient data or to avoid disclosure of individual operations.

Hens and pullets of laying age: December 1, by county, 1999-2000 ¹

County and district	Hens and pullets of laying age		County and district	Hens and pullets of laying age	
	1999	2000		1999	2000
	<i>Head</i>	<i>Head</i>		<i>Head</i>	<i>Head</i>
Delta	1,000		Allegan	1,924,000	2,150,000
Houghton	6,400	6,300	Berrien	1,000	1,000
Other counties ²	4,600	4,700	Cass	1,000	1,000
Upper Peninsula	12,000	11,000	Kalamazoo	271,000	240,000
Charlevoix		1,100	Ottawa	1,804,000	1,683,000
Other counties ²		4,400	Other counties ²	67,000	61,000
Northwest	5,000	5,500	Southwest	4,068,000	4,136,000
Alpena	1,000	1,000	Barry	1,900	1,800
Otsego	1,000	1,000	Branch		1,000
Other counties ²	3,000	3,500	Calhoun	5,500	5,500
Northeast	5,000	5,500	Clinton		1,100
West Central			Eaton	3,700	4,500
Gladwin	2,500	2,600	Ingham	3,500	4,500
Isabella	1,100	1,200	Jackson	2,000	2,200
Mecosta	2,200	2,400	Shiawassee	4,500	3,400
Midland	1,400	1,800	Other counties ²	1,331,900	1,346,000
Montcalm	1,800	1,900	South Central	1,353,000	1,370,000
Osceola		1,100	Lapeer	2,500	2,500
Other counties ²	58,000	57,000	Livingston	1,100	1,400
Central	67,000	68,000	Macomb	1,000	1,100
Bay	1,000	1,400	Monroe	2,700	2,800
Huron	565,000	605,000	Oakland	1,100	1,200
Sanilac	2,800	3,200	St Clair	3,100	3,500
Tuscola	80,000	69,000	Washtenaw	2,400	2,600
Other counties ²	1,200	1,400	Wayne	1,200	1,200
East Central	650,000	680,000	Other counties ²	8,900	9,700
			Southeast	24,000	26,000
			Michigan	6,187,000	6,305,000

¹ Estimates are not published for counties with less than 1,000 hens and pullets of laying age.

² Not published separately because of insufficient data or to avoid disclosure of individual operations.

Dairy: Number of operations and total milk produced, by county, 1999-2000 ¹

County and district	1999		2000		County and district	1999		2000	
	Operations	Total milk produced	Operations	Total milk produced		Operations	Total milk produced	Operations	Total milk produced
	<i>Number</i>	<i>1,000 pounds</i>	<i>Number</i>	<i>1,000 pounds</i>		<i>Number</i>	<i>1,000 pounds</i>	<i>Number</i>	<i>1,000 pounds</i>
Alger	9		9	6,100	Arenac	25	57,300	25	59,300
Baraga	10	8,400	7	8,200	Bay	15	17,900	15	18,600
Chippewa	23	14,200	20	15,000	Huron	195	291,000	190	336,000
Delta	33	27,000	32	29,200	Saginaw	40	55,800	40	55,400
Dickinson	10	12,400	10	13,500	Sanilac	285	342,000	270	340,000
Houghton	10		9		Tuscola	80	96,000	65	90,700
Iron	4		4		East Central	640	860,000	605	900,000
Mackinac	9	16,700	9	17,000	Allegan	130	287,000	118	311,000
Marquette	4	9,700	4		Berrien	20	37,000	13	41,500
Menominee	82	104,000	80	114,000	Cass	20	13,500	19	13,100
Ontonagon	14	9,900	14	9,900	Kalamazoo	14	71,800	12	90,800
Schoolcraft	2		2		Kent	83	161,000	76	152,000
Other counties ²		12,700		12,100	Ottawa	120	238,000	113	248,000
Upper Peninsula	210	215,000	200	225,000	Van Buren	33	21,700	24	23,600
Antrim	15	18,600	15	17,500	Southwest	420	830,000	375	880,000
Benzie	1				Barry	54	168,000	53	176,000
Charlevoix	11	12,100	10	12,400	Branch	103	62,000	102	66,400
Emmet	14	18,900	13	19,800	Calhoun	68	106,000	65	113,000
Grand Traverse	12	12,800	11	10,200	Clinton	103	385,000	98	395,000
Kalkaska	4		3		Eaton	60	42,500	50	41,500
Leelanau	10	7,100	10		Hillsdale	145	135,000	165	137,000
Manistee	8		8		Ingham	65	107,000	63	108,000
Missaukee	84	170,000	80	167,000	Ionia	95	193,000	92	206,000
Wexford	21	15,200	20	14,600	Jackson	46	94,000	46	98,600
Other counties ²		5,300		8,500	St Joseph	67	40,500	52	33,000
Northwest	180	260,000	170	250,000	Shiawassee	59	77,000	59	75,500
Alcona	11	10,700	10	12,100	South Central	865	1,410,000	845	1,450,000
Alpena	44	50,000	45	55,000	Genesee	18	27,900	16	30,000
Cheboygan	10	22,300	10	24,500	Lapeer	84	87,000	80	89,000
Iosco	23	30,000	20	34,200	Lenawee	57	149,000	53	199,000
Montmorency	13	16,100	13	16,500	Livingston	37	67,000	30	67,000
Ogemaw	50	103,000	47	110,000	Macomb	15	10,500	15	10,300
Oscoda	20		20		Monroe	10	8,500	8	5,600
Otsego	4		4		Oakland	4		3	
Presque Isle	30	29,000	26	28,500	St Clair	38	32,200	36	34,400
Other counties ²		13,900		14,200	Washtenaw	50	76,700	48	78,800
Northeast	205	275,000	195	295,000	Wayne	2		1	
Lake	6		6		Other counties		1,200		900
Mason	41	46,600	39	49,000	Southeast	315	460,000	290	515,000
Muskegon	33		32		Michigan	3,700	5,455,000	3,500	5,705,000
Newaygo	111	153,000	105	157,000					
Oceana	39	35,000	38	36,300					
Other counties ²		105,400		122,700					
West Central	230	340,000	220	365,000					
Clare	55	56,500	52	60,700					
Gladwin	75	19,700	73	20,700					
Gratiot	60	173,000	57	179,000					
Isabella	110	157,000	105	161,000					
Mecosta	120	70,000	116	68,000					
Midland	10	8,800	9	8,600					
Montcalm	120	205,000	118	206,000					
Osceola	85	115,000	70	121,000					
Central	635	805,000	600	825,000					

¹ Estimates are not published for counties with 5 or fewer farms or with less than 5 million pounds of annual production. An operation is any place having one or more head on hand at any time during the year.

² Not published separately because of insufficient data or to avoid disclosure of individual operations.

Sheep: January 1, 2000-2001, by county

County and district	All sheep and lambs		County and district	All sheep and lambs	
	2000	2001		2000	2001
	<i>Head</i>	<i>Head</i>		<i>Head</i>	<i>Head</i>
Alger	600	600	Allegan	1,600	1,500
Chippewa	1,200	1,100	Cass	1,300	1,300
Other counties ²	600	900	Kalamazoo	5,100	4,700
Upper Peninsula	2,400	2,600	Ottawa	700	900
Antrim	500		Van Buren	1,200	1,200
Other counties ²	1,600	2,400	Other counties ²	900	1,300
Northwest	2,100	2,400	Southwest	10,800	10,900
Iosco	600	500	Barry	1,500	1,400
Oscoda	500		Branch	1,100	1,200
Other counties ²	1,400	2,400	Calhoun	1,500	1,500
Northeast	2,500	2,900	Clinton	2,000	1,600
Lake	700	600	Eaton	2,400	2,500
Mason	700	600	Hillsdale	1,100	1,200
Newaygo	800	1,200	Ingham	1,700	1,700
Other counties ²	300	300	Ionia	600	800
West Central	2,500	2,700	Jackson	4,600	4,500
Clare	800	700	St Joseph	2,200	2,000
Gladwin	1,100	1,100	Shiawassee	900	1,000
Gratiot		700	South Central	19,600	19,400
Isabella	600	1,100	Genesee	1,100	1,100
Mecosta	1,500	1,900	Lapeer	1,500	1,400
Midland		600	Lenawee	1,400	1,400
Montcalm	500	700	Livingston	1,100	1,200
Osceola	1,000	1,200	Monroe	1,200	1,200
Other counties ²	700		Oakland	800	800
Central	6,200	8,000	Washtenaw	11,600	11,000
Bay		600	Other counties ²	700	700
Sanilac	500	600	Southeast	19,400	18,800
Tuscola	900	1,300	Michigan	68,000	71,000
Other counties ²	1,100	800			
East Central	2,500	3,300			

¹ Estimates are not published for counties with less than 500 sheep.

² Not published separately because of insufficient data or to avoid disclosure of individual operations.

Useful Agriculture Internet Sites

State and Federal Agencies

MDA-Michigan Department of Agriculture	www.mda.state.mi.us
MASS-Michigan Agricultural Statistics Service	www.mda.state.mi.us/mass/index.htm
USDA-United States Department of Agriculture	www.usda.gov
NASS-National Agricultural Statistics Service	www.usda.gov/nass
AMS-Agricultural Marketing Service, Market News Service	www.ams.usda.gov/marketnews.htm
APHIS-Animal and Plant Health Inspection Service	www.aphis.usda.gov
ERS-Economic Research Service	www.econ.ag.gov
FSA-Farm Service Agency	www.fsa.usda.gov
NRCS-National Resources Conservation Service	www.nrcs.usda.gov
RD-Rural Development	www.rurdev.usda.gov
MSU Extension	www.msue.msu.edu

Commodity Groups

Apples-Michigan Apple Committee	www.michiganapples.com
Asparagus-Michigan Asparagus Advisory Board	www.asparagus.com
Bison-Michigan Bison Association	www.michiganbison.com
Blueberries-Michigan Blueberry Growers Association	www.blueberries.com
Cattle-Michigan Beef Industry Commission	www.mibeef.org
Celery-Michigan Celery Promotion Cooperative	www.michigancelery.com
Cherries-Cherry Industry Administrative Board (CIAB)	www.cherryboard.org
Cherries-Cherry Marketing Institute	www.cherrymkt.org
Christmas Trees-Michigan Christmas Tree Association	www.mcta.org
Corn-Michigan Corn Growers Association	www.micorn.org
Dairy-Michigan Milk Producers Association	www.mimilk.com
Dairy-United Dairy Industry of MI	www.udim.org
Dry Beans-Michigan Bean Commission	www.michiganbean.org
Dry Beans-Michigan Bean Shippers / Agri-Business Association	www.miagbiz.org
Elk and Deer-Michigan Elk and Deer Breeders Association	www.michigandeerbreeders.com
Floriculture-Michigan Floral Association	www.michiganfloral.org
Floriculture-Allied Florist Association of Metro Detroit	www.alliedflorist.com
Grapes-Michigan Grape and Wine Industry Council	www.michiganwines.com
Horses-Michigan Horse Council	www.michiganhorsecouncil.com
Nursery-Michigan Nursery & Landscape Association	www.mnla.org
Pork-National Pork Board and Pork Producers Council	www.nppc.org
Potatoes-Michigan Potato Industry Commission	www.mipotato.com
Soybeans-Michigan Soybean Promotion Committee	www.michigansoybean.org
Sugarbeets-Monitor Sugarbeet Growers	www.monitorsugar.com
Turfgrass-Michigan Turfgrass Association	www.michiganturfgrass.org
Turkeys-Michigan Turkey Producers	www.miturkey.com

Other Related Sites

Implementation Working Group-IWG	www.fqpa-iwg.org
American Farm Bureau Federation	www.fb.org
Michigan Farm Bureau	www.michiganfarmbureau.com
Michigan Integrated Food and Farming Systems on-line directory	www.miffsmarketline.org
Michigan Bovine TB Eradication Project	www.bovinetb.com
MSU Agriculture Weather Office	www.agweather.geo.msu.edu

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- **Michigan Agricultural Statistics Service (MASS)**

MASS home page at: <http://www.mda.state.mi.us/mass/index.html>

Under the **MASS** home page you will find up-to-date data such as Crop-Weather releases, press releases, *Agriculture Across Michigan*, and county estimates.

- **National Agricultural Statistics Service (NASS)**

NASS home page at: <http://www.usda.gov/nass/>

You can access national releases, 1997 Census of Agriculture data, and home pages of **NASS** state offices including Michigan from this web site. *Michigan Crop Weather* and national releases by free e-mail subscription are available from this site.

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- Michigan Agricultural Statistics Bulletin (2000-2001):** An annual summary of Michigan crop, livestock, and price statistics, including county estimates of livestock and major crops. Issued Summer, 2001.

MICHIGAN ROTATIONAL SURVEY BULLETINS:

- Fruit (2000-2001):** A summary of Michigan fruit acreage, age and number of trees, varieties, etc. Issued Summer, 2001.
- Nursery and Christmas Trees (1999-2000):** A summary of Michigan nursery and Christmas tree statistics.
- Vegetables (1998-99):** A summary of Michigan vegetable statistics.

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