PLANTING, DEVELOPMENT AND HARVEST OF MAJOR KANSAS CROPS

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FOREWORD

Agriculture in Kansas plays a leading role in the State's economy. Every county in one form or another contributes to the agricultural output of the State. Kansas is proud to be called the "granary" of the country. From 1986 through 1995 Kansas ranked number one in wheat flour, but in wheat production, lost first place to North Dakota in 1989, 1992, and 1995. Kansas ranked number one in sorghum grain and sorghum silage production from 1986-1995, with the exception of 1991-1992 for grain and 1990, 1991, and 1993 for silage. Wheat production in 1990 reached a record high with 472.0 million bushels. The crops industry in Kansas provides livelihood not only for the farmers and their families but also for other agriculturally-related occupations.

Kansas Agricultural Statistics, cooperating with the KSU Extension Service, the National Weather Service, and the Kansas State Climatologist publishes a weekly Kansas Crop-Weather Report. The information presented in this publication is a summary of those weekly reports. The weekly Crop-Weather Report traces the progress of crops from planting to harvest, the growth and development, extent of deterioration or improvement, effects of wind, rain, hail or other weather conditions from week to week. This publication shows the average progression of planting, development and harvest of major Kansas crops for the period 1990-94

Tables are shown for the planting date patterns, development stages, and harvesting dates on a State and crop reporting district basis. Data for the five-year average covers the period from 1990 to 1994. Similar data have been published for earlier years in booklets called Kansas Crops From Planting To Harvest in 1963, 1974 and 1979 and Kansas Crop Calendar in 1986 and 1991. District averages for the current five years, along with historical State averages beginning in 1990, are included. Maps and graphs show both State and county yield averages during these years. The last section of this bulletin deals with climatic conditions which gives some idea of the benefits and detrimental roles played by snow, freezing temperatures, wind, rainfall and sunshine.

Acknowledgment and thanks are extended to the County Agricultural Extension Agents and others who helped in making this publication possible. A special word of thanks also to the State Climatologist for the weather information provided on pages 35 and 36.

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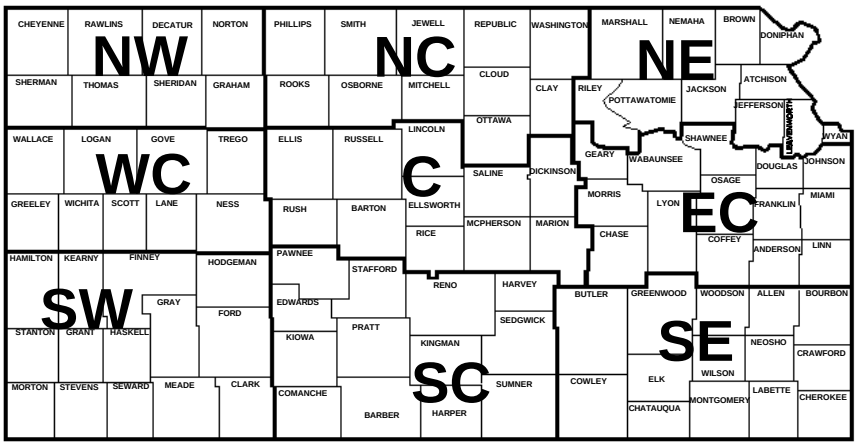
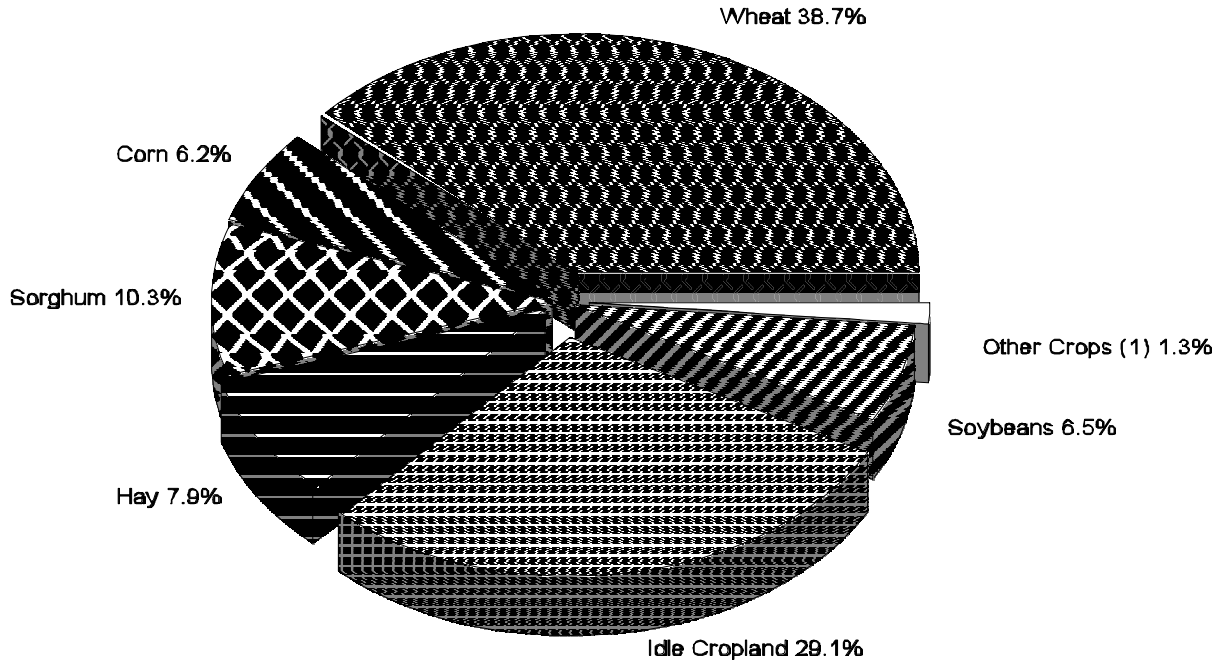


Kansas is divided into nine Agricultural Statistics Districts for convenience in compiling and presenting statistical information on crops and livestock. These nine districts are outlined on the above map. The districts are designated as follows: northwest (NW), west central (WC), southwest (SW), north central (NC), central (C), south central (SC), northeast (NE), east central (EC), and southeast (SE). In tables showing statistical information by counties in this bulletin, counties within each district are grouped together in alphabetical order. Totals and averages are shown for each district.

KANSAS CROPLAND UTILIZATION, 1990-94 AVERAGE

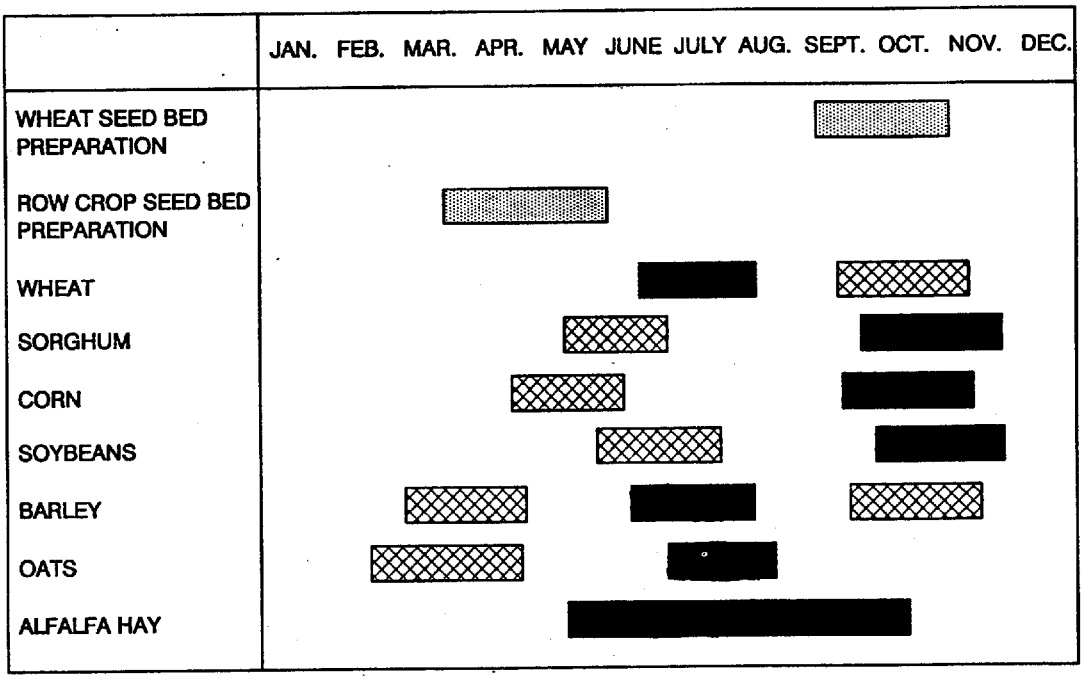
There are about 48 million acres of farmland in Kansas, of which 65 percent, or about 31.1 million acres, is available for crops. Pasture and grazing land make up the remaining acres. During the five year period (1990-94) crops were planted on an estimated 22.0 million acres and harvested from an average of 20.6 million acres (including 2.5 million acres utilized for hay). Wheat, the number one crop in the State, was planted on 38.7 percent of the total cropland. Sorghum, a distant second to wheat, was planted on 10.3 percent of the State's cropland; corn, 6.2 percent; and soybeans, 6.5 percent. Hay was harvested from 7.9 percent of all cropland, and all other crops accounted for 1.3 percent. The residual of 29.1 percent was idle cropland.

KANSAS CROPLAND UTILIZATION



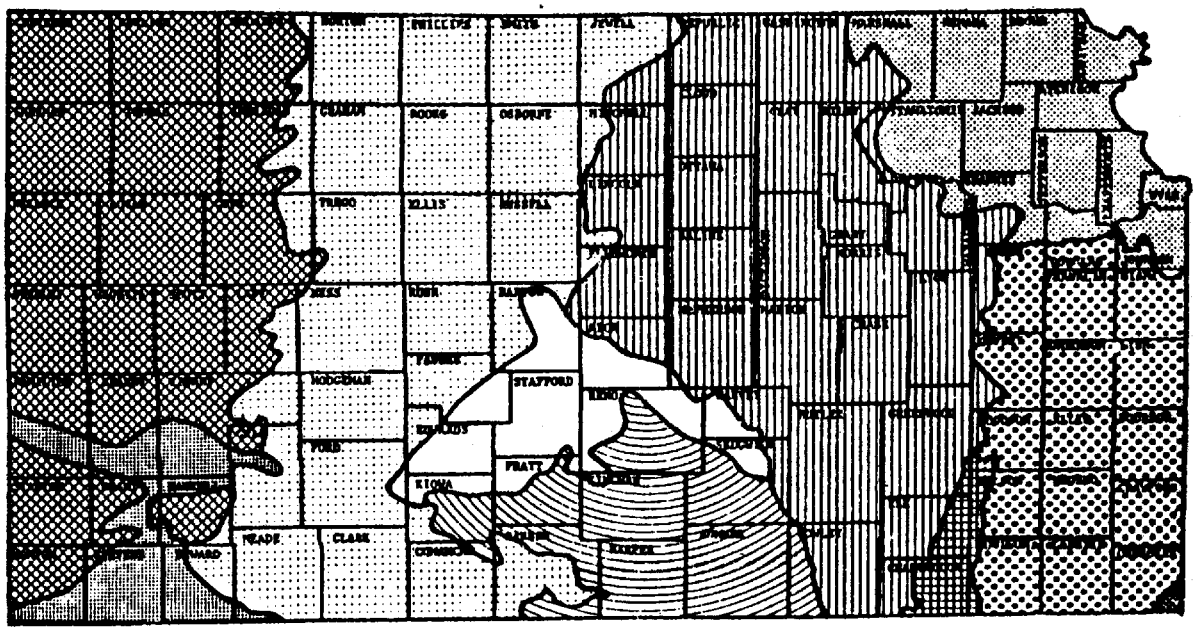
(1) Includes oats, barley, rye, sunflowers, cotton, fruit, and dry beans.

KANSAS CROP CALENDAR



PLANTING HARVESTING

KANSAS SOIL TYPES



Deep, dark gray-brown silt loams.

Moderately deep, dark gray-brown silt, and silty clay loams.

Very dark brown silt, clay, and silty clay loams.

Deep, brown cherty silt loams.

Deep, gray-brown silt and sandy loams; brown loamy fine sands.

Deep, dark gray-brown, loams and pale brown loamy sands.

Moderately deep, very dark gray-brown silt, clay, and silty clay loams.

Moderately deep, dark gray-brown silt loams; gray clays.

Deep, dark gray-brown, brown fine sandy, and silt loams.

Moderately deep, very dark gray-brown clay and dark brown sandy loams.

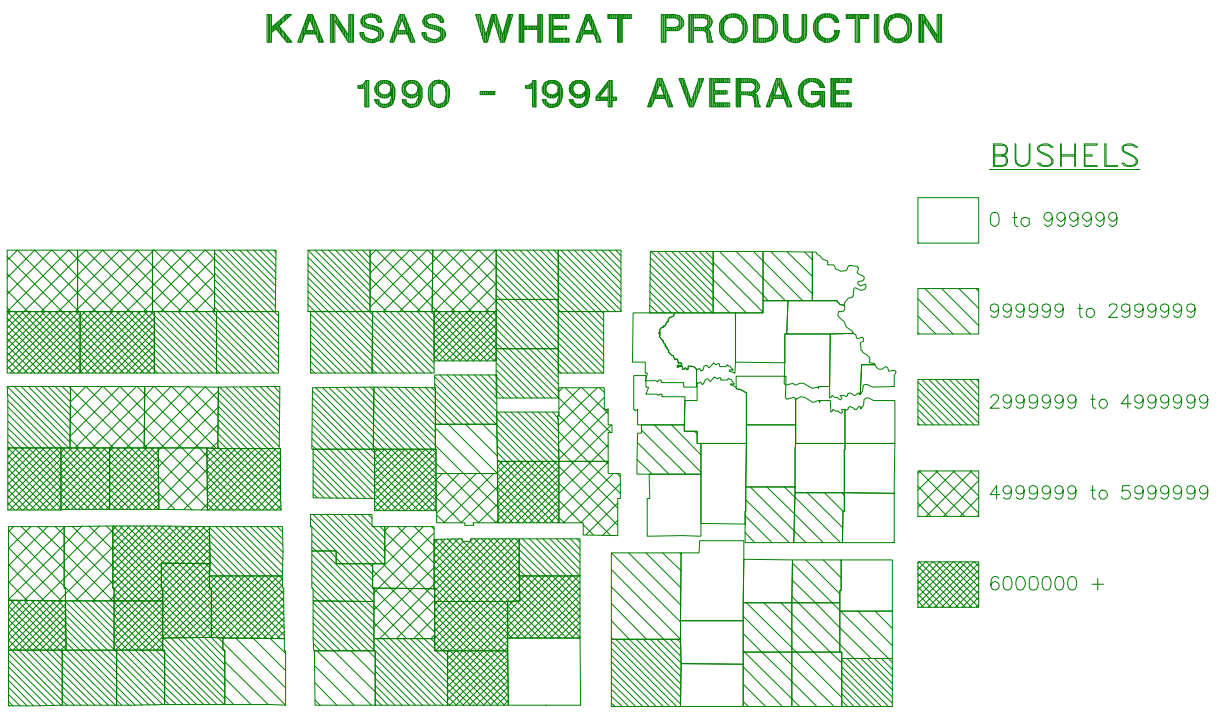
WHEAT

The western third of Kansas leads in the start of wheat planting which usually takes place in late August. By September 20, some seeding has been done in all parts of the State. The eastern third of the State is usually the last to begin wheat seeding. The peak of the planting period is from the middle of September to the middle of October. In 1995, 32 percent of the wheat acreage had been sown by September 30. For the period 1990-94, the acreage planted by this date averaged 54 percent. Seeding is completed in almost all areas of the State by early November. The western districts lead the rest of the State by a week or two. The percentage of wheat acreage sown by specified dates is shown on page six.

Wheat begins to head earliest in the southeast and south central districts, usually during the last week of April. In the ten-year period (1986-1995), 1991 was the leading year with 27 percent of the wheat headed by May 1. Turning color closely follows heading. Wheat in southeast and south central Kansas turned gold well before the rest of the State.

Ripening of wheat starts around the first week of June in southern Kansas and is virtually ripe State-wide by the first part of July. Ripening can vary from year to year, as only 15 percent of the wheat ripened by June 20, 1993, compared with 84 percent ripened in 1991 on the same date.

Wheat harvesting usually begins in mid-June and lasts until mid-July depending on precipitation amounts during these months. Wheat harvest in 1995 started out slow and was only 17 percent completed by June 30. Harvest was completed the latest in 1993 when only 73 percent of the acreage was harvested by July 20. The fastest harvest for the ten-year period was in 1988 when 90 percent of the wheat was cut by June 30.



WHEAT (CONTINUED)

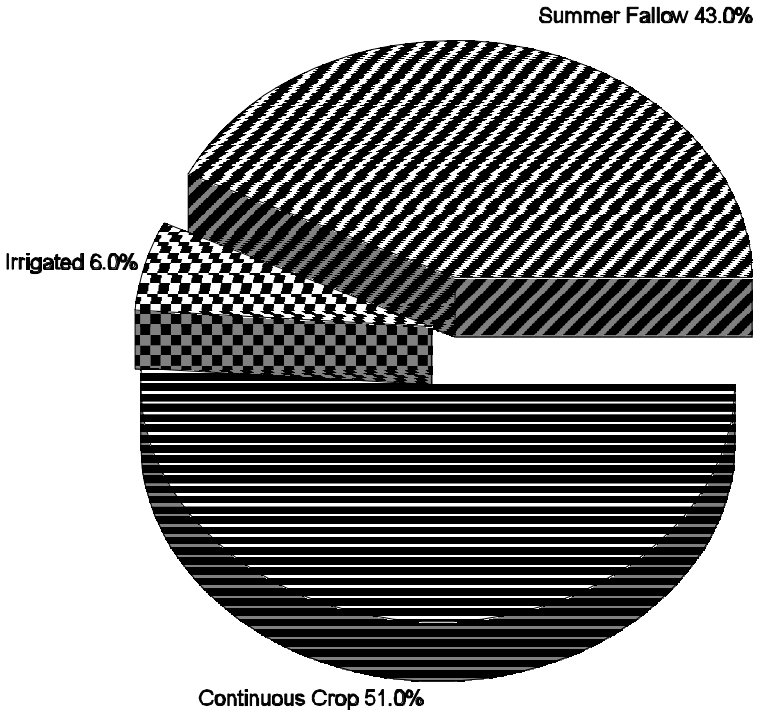
Southwest and south central counties generally record the earliest dates of harvest completion. These districts have averaged 96 percent of the wheat acreage harvested by July 10 for the 1990-94 period. The tables on page ten show the percentage of acreage harvested by specified dates. The average date and range in dates wheat harvest began is shown in the maps on page 12.

When compared with total Kansas crop receipts, wheat sales accounted for 47 percent for the period 1990-94 and 16 percent of the value of all farm commodities marketed for the same period. Average wheat production for the State over the 1990-94 period was 404.1 million bushels (a record crop of 472.0 million bushels was produced in 1990). The average yield for the same period was 36 bushels per acre. A chart and map on a later page show historical state yields and five-year average county yields per harvested acre.

Sumner, Reno, and Finney counties lead in the production of wheat. Two out of three of these counties are located in the south central crop reporting district. County production representing the average for 1990-94 is shown by the map on page four.

Continuous cropped land, summer fallow and irrigated land are the three major cropping practices for wheat grown in Kansas. An average of 43 percent of the crop was planted on summer fallowed land, 51 percent planted on continuous cropped land, while 6 percent of the crop was planted on irrigated land for the period 1990-94.

KANSAS WHEAT ACREAGE PERCENT GROWN
BY CROPPING PRACTICES, 1990-94 AVERAGE



KANSAS WHEAT SEEDED: Percent of Acreage by Specified Dates, 1986-95

Year	September			October		
	10	20	30	10	20	30
1986	10	40	70	80	85	90
1987	10	30	65	90	96	99
1988	4	15	45	80	90	97
1989	2	15	60	85	95	98
1990	3	5	50	75	95	98
1991	5	21	56	87	92	97
1992	6	28	56	82	90	97
1993	6	22	48	78	91	96
1994	8	37	60	76	92	97
1995	2	8	32	72	94	99

KANSAS WHEAT SEEDED: Percent of Acreage by Specified Dates, 1990-94 Average

District	September			October		
	10	20	30	10	20	30
NW	4	35	83	98	100	100
WC	11	39	84	97	99	100
SW	15	44	74	90	96	98
NC	0	6	44	81	96	99
C	1	5	28	72	91	98
SC	4	14	43	75	90	96
NE	3	7	24	56	83	93
EC	2	8	18	38	65	83
SE	3	9	20	42	65	83
STATE	6	23	54	80	92	97

KANSAS WHEAT HEADED: Percent of Acreage by Specified Dates, 1986-1995

Year	May				June
	1	10	20	30	10
1986	20	70	95	99	100
1987	2	35	85	98	100
1988	0	25	80	95	100
1989	15	55	85	97	100
1990	4	25	75	97	100
1991	27	58	92	99	100
1992	21	62	93	100	100
1993	0	5	41	89	100
1994	9	35	83	98	100
1995	9	30	67	97	100

KANSAS WHEAT HEADED: Percent of Acreage by Specified Dates, 1990-1994

District	May				June
	1	10	20	30	10
NW	0	12	51	94	100
WC	4	20	68	95	100
SW	10	44	86	100	100
NC	1	17	62	94	100
C	8	37	78	98	100
SC	25	61	91	100	100
NE	2	14	56	90	100
EC	6	32	72	96	100
SE	31	64	93	100	100
STATE	12	37	77	97	100

KANSAS WHEAT TURNED COLOR: Percent of Acreage by Specified Dates, 1986-95

Year	May		June		
	20	30	10	20	30
1986	15	45	85	98	100
1987	1	20	75	99	100
1988	1	15	75	96	100
1989	2	20	55	85	98
1990	1	20	65	95	100
1991	8	41	87	97	100
1992	10	36	73	94	100
1993	0	4	42	83	100
1994	3	31	84	99	100
1995	1	6	36	87	100

KANSAS WHEAT TURNED COLOR: Percent of Acreage by Specified Dates, 1990-94 Average

District	May		June		
	20	30	10	20	30
NW	0	9	45	83	100
WC	1	11	69	95	100
SW	4	28	82	99	100
NC	0	8	48	87	100
C	2	22	70	95	100
SC	11	49	88	99	100
NE	0	12	46	88	100
EC	2	17	65	95	100
SE	11	55	91	100	100
STATE	4	26	70	94	100

KANSAS WHEAT RIPE: Percent of Acreage by Specified Dates, 1986-95

Year	June		
	10	20	30
1986	30	70	100
1987	10	70	100
1988	10	70	100
1989	4	35	75
1990	4	40	100
1991	38	84	100
1992	9	49	100
1993	2	15	62
1994	16	71	100
1995	2	19	56

KANSAS WHEAT RIPE: Percent of Acreage by Specified Dates, 1990-94 Averages

District	June		
	10	20	30
NW	4	25	77
WC	2	35	88
SW	21	69	100
NC	2	30	77
C	11	49	87
SC	28	75	100
NE	1	26	66
EC	6	36	81
SE	28	69	99
STATE	14	51	92

KANSAS WHEAT HARVESTED: Percent of Acreage by Specified Dates 1986-95

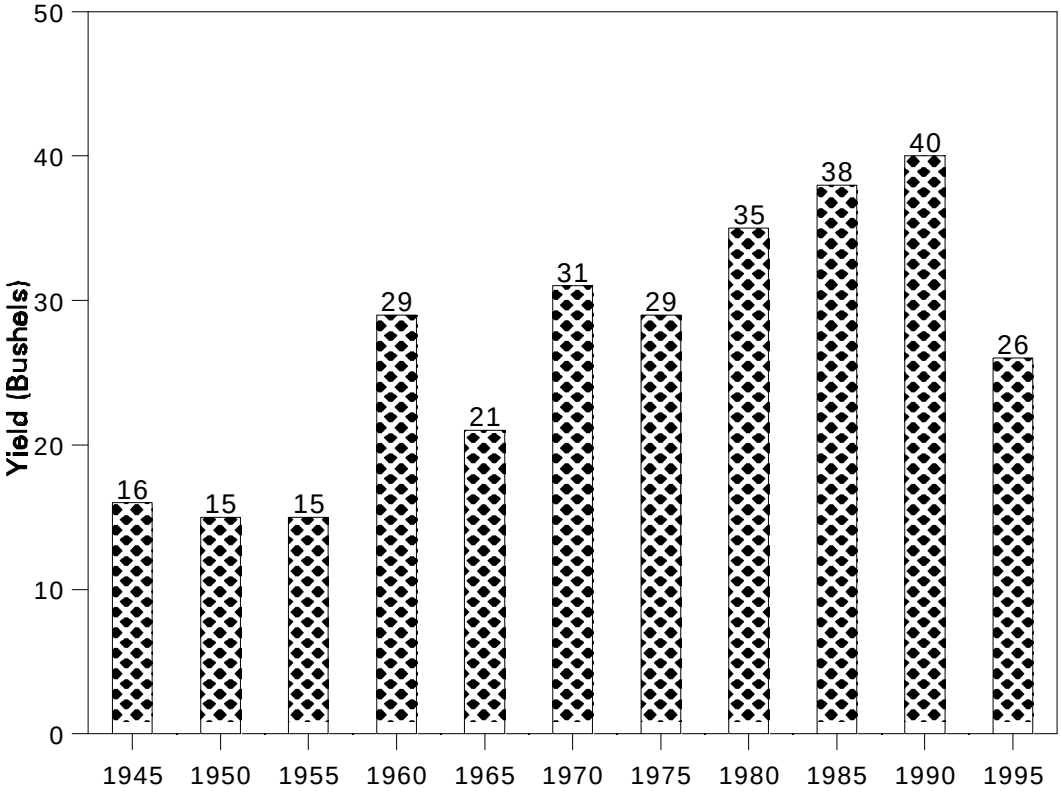
Year	June			July		
	10	20	30	10	20	30
1986	1	45	85	98	100	100
1987	0	25	65	90	98	100
1988	0	35	90	99	100	100
1989	0	10	30	75	97	100
1990	0	15	60	97	100	100
1991	7	52	86	99	100	100
1992	1	11	43	85	95	98
1993	0	1	25	62	73	87
1994	0	32	86	99	100	100
1995	0	5	17	57	95	99

KANSAS WHEAT HARVESTED: Percent of Acreage by Specified Dates, 1990-94 Average

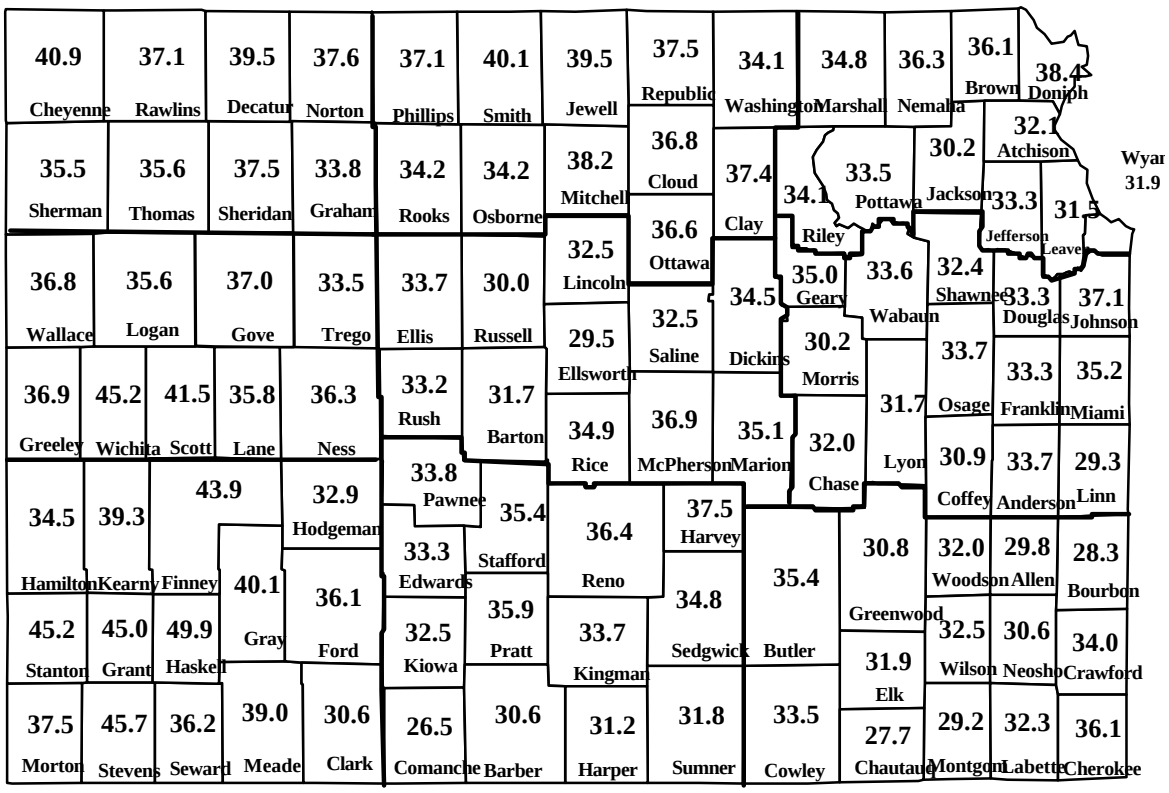
District	June			July		
	10	20	30	10	20	30
NW	0	2	34	77	91	98
WC	0	11	55	92	97	99
SW	1	23	67	96	100	100
NC	0	11	45	76	82	88
C	1	21	59	86	90	96
SC	4	42	81	96	99	100
NE	0	8	40	73	81	88
EC	1	14	50	81	89	93
SE	4	30	69	93	99	100
STATE	2	22	60	88	94	97

KANSAS WHEAT YIELDS

(1945-1995)

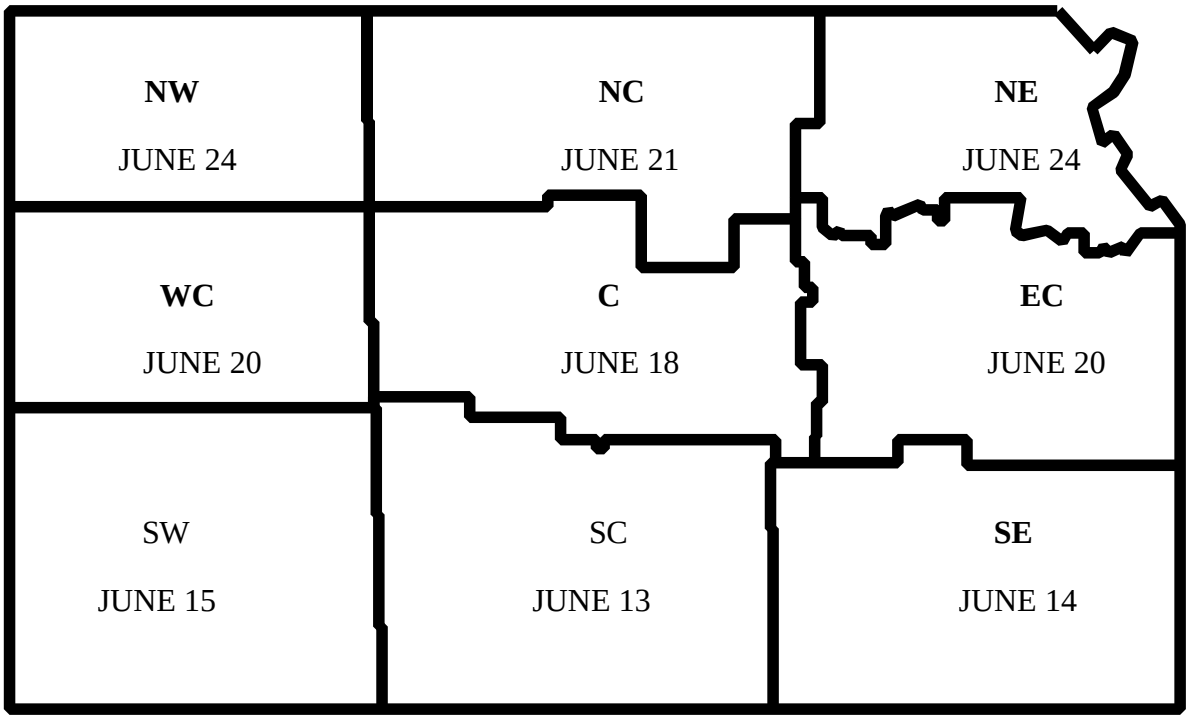


WHEAT: YIELD PER HARVESTED ACRE, 1990-1994 AVERAGE (BUSHELS)

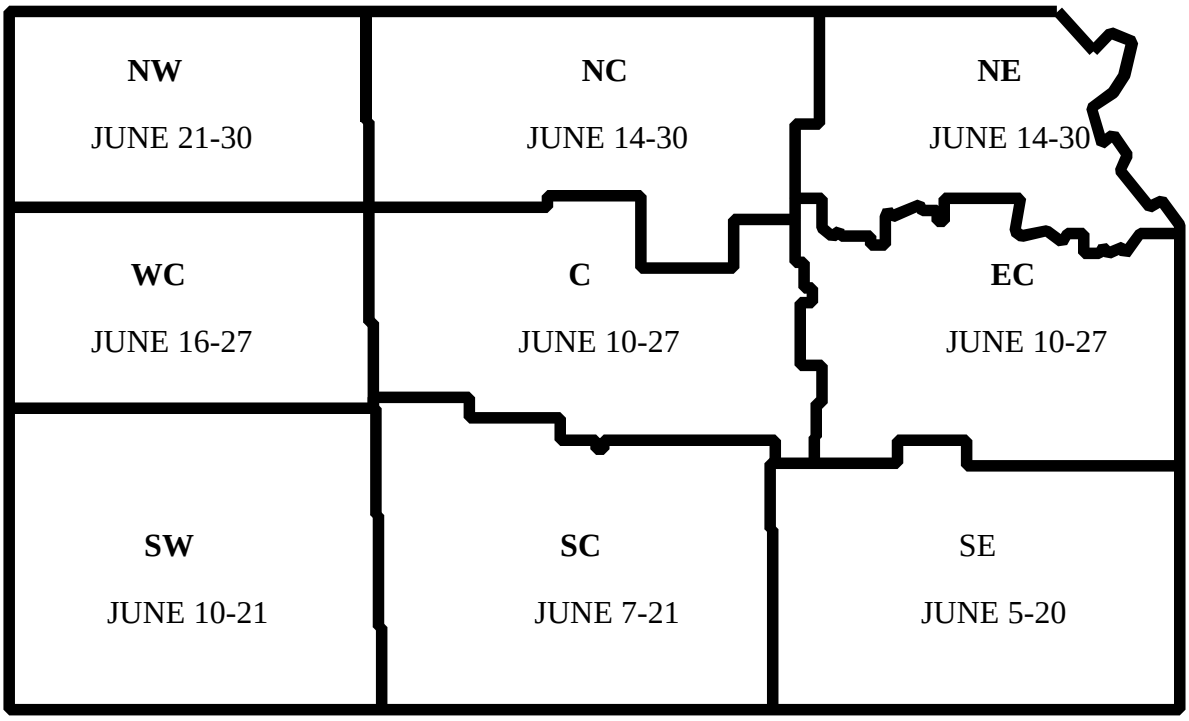


T--Precipitation less than .005 inch. Omission of an entry indicates report not received.

AVERAGE DATE WHEAT HARVEST BEGINS
1990-94 AVERAGE



RANGE IN DATES WHEAT HARVEST BEGAN
DURING PERIOD 1990-94



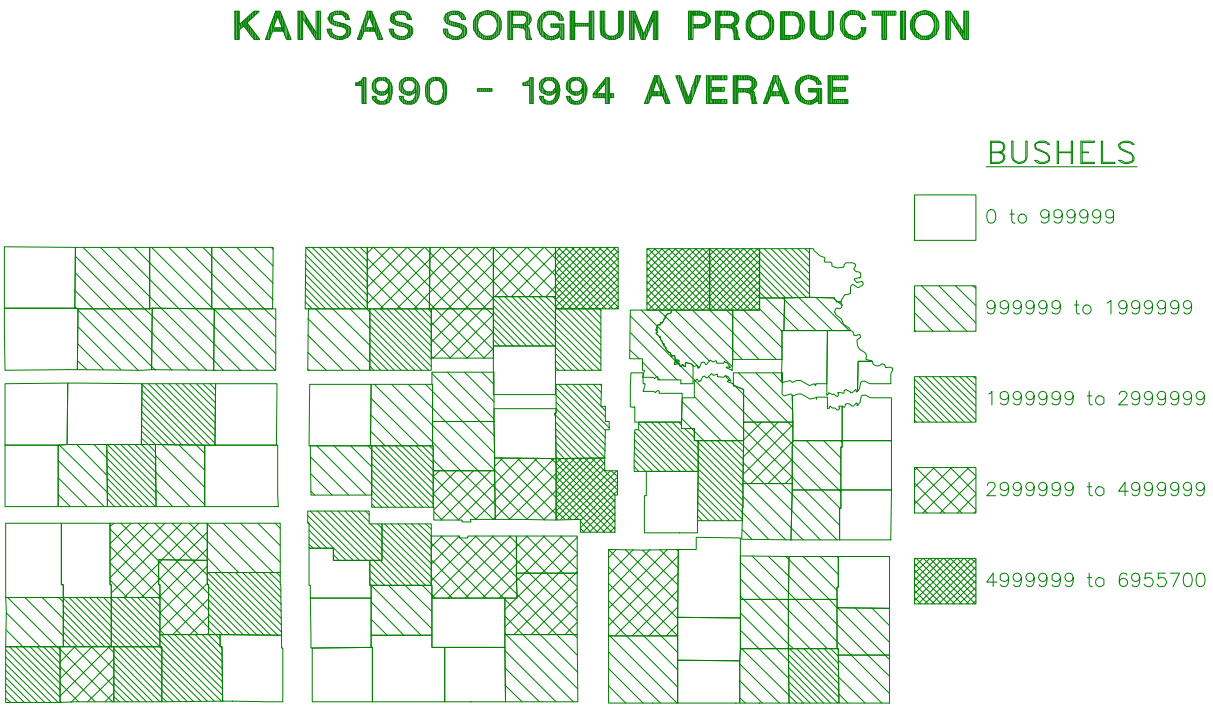
SORGHUM

Planting of sorghum starts toward the end of April and about 35 percent is planted by May 30. The earliest planting for the years 1986-95 was in 1989 when 30 percent was already in the ground by May 20. The southeast counties led other areas in the start of planting during the period 1990-94. By May 10, the southeast district averaged 29 percent of the sorghum acreage planted over that period, compared with the State average of 17 percent.

Mid-July is about the time sorghum begins to head, and by September 30, all sorghum has usually headed. During the period 1990-94, sorghum matured the earliest in the eastern districts; about 10 days earlier than the central or western districts. State-wide, sorghum in Kansas is about 95 percent mature by October 30.

Harvesting of sorghum usually begins in mid-September and is well underway everywhere by October 10. For the period 1986-95, harvest got started the slowest in 1992. Harvesting got underway relatively early in 1994 when 35 percent of the acreage was harvested by October 1. Delay in harvesting is usually attributed to wet soil during the fall, keeping combines out of the fields.

Kansas was the No. 1 State in the nation for production of sorghum for grain for the period 1984 through 1990. State production of sorghum grain averaged 257.0 million bushels between 1985-89. State sorghum yields over this period averaged 66.4 bushels per acre. A record high yield of 80.0 bushels per acre was attained in 1992. Stevens County, located in the southwestern district, led all counties in sorghum production over the years 1985-89, averaging 7.5 million bushels.



KANSAS SORGHUM PLANTED: Percent of Acreage by Specified Dates, 1986-95

Year	May			June			July
	10	20	30	10	20	30	10
1986	10	20	35	55	80	95	97
1987	5	25	40	65	85	95	99
1988	5	20	40	70	85	95	99
1989	10	30	35	60	75	90	97
1990	5	15	30	60	85	95	99
1991	4	16	35	61	85	96	99
1992	11	28	39	50	66	86	96
1993	2	4	15	49	80	92	98
1994	6	21	55	81	95	98	100
1995	1	2	3	16	64	93	97

KANSAS SORGHUM PLANTED: Percent of Acreage by Specified Dates, 1990-94 Averages

District	May			June			July
	10	20	30	10	20	30	10
NW	4	15	34	63	87	98	100
WC	7	22	46	69	89	97	100
SW	6	20	38	63	83	95	99
NC	0	5	20	50	81	95	99
C	2	7	24	52	77	90	98
SC	8	18	34	54	73	86	96
NE	6	20	42	73	92	82	100
EC	8	25	44	71	88	96	100
SE	16	29	50	68	82	92	97
STATE	6	17	35	60	82	93	98

KANSAS SORGHUM HEADED: Percent of Acreage by Specified Dates, 1986-95

Year	July		August			September		
	20	30	10	20	30	10	20	30
1986	15	35	60	85	96	98	100	100
1987	10	25	55	80	90	98	99	100
1988	5	15	45	75	90	97	99	100
1989	5	15	25	50	75	90	97	99
1990	5	15	35	70	90	99	100	100
1991	14	25	51	76	89	94	97	100
1992	4	12	30	48	77	93	98	100
1993	2	9	35	70	89	99	99	100
1994	21	45	75	90	98	100	100	100
1995	1	3	18	54	84	97	100	100

KANSAS SORGHUM HEADED: Percent of Acreage by Specified Dates, 1990-94 Averages

District	July		August			September		
	20	30	10	20	30	10	20	30
NW	2	19	51	74	90	97	98	100
WC	3	17	48	74	91	97	100	100
SW	2	13	35	66	89	98	100	100
NC	3	11	38	73	91	98	99	100
C	6	14	29	55	80	92	97	100
SC	12	24	45	65	85	94	99	100
NE	12	28	56	83	94	100	100	100
EC	12	30	56	83	93	99	100	100
SE	25	46	70	85	95	99	100	100
STATE	9	21	45	71	89	97	99	100

SORGHUM MATURED: Percent of Acreage by Specified Dates, 1986-95

Year	September			October		
	10	20	30	10	20	30
1986	20	40	60	80	90	95
1987	20	35	60	80	90	96
1988	20	40	65	80	90	97
1989	5	15	35	50	70	90
1990	10	25	55	80	96	99
1991	20	34	60	86	94	99
1992	3	10	24	44	68	86
1993	7	17	43	65	84	94
1994	22	51	79	93	98	99
1995	2	5	31	70	93	99

SORGHUM MATURED: Percent of Acreage by Specified Dates, 1990-94 Averages

District	September			October		
	10	20	30	10	20	30
NW	2	14	43	64	77	93
WC	6	20	45	71	84	95
SW	4	16	43	69	86	94
NC	5	17	44	69	89	96
C	9	24	44	70	88	95
SC	12	28	54	74	86	94
NE	24	44	64	81	95	99
EC	22	42	70	87	96	99
SE	30	51	68	86	94	99
STATE	12	28	52	74	88	95

KANSAS SORGHUM HARVESTED: Percent of Acreage by Specified Dates, 1986-95

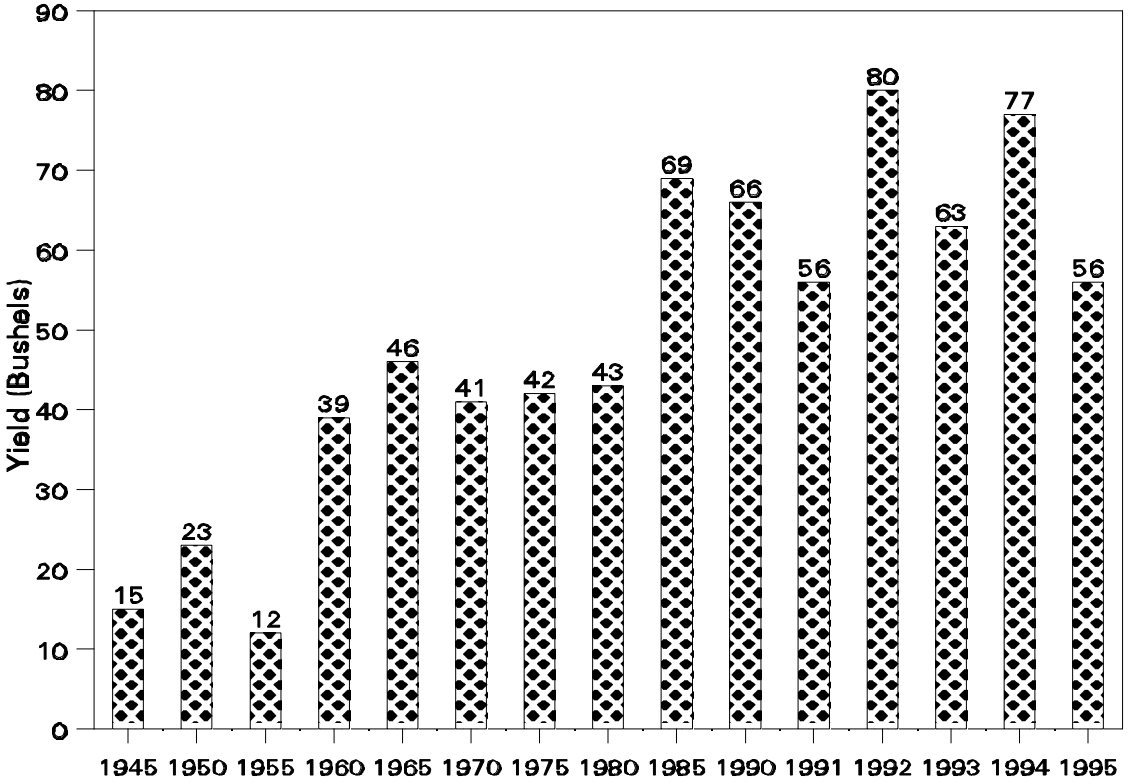
Year	October				November		
	1	10	20	30	10	20	30
1986	10	20	35	55	70	85	95
1987	20	35	55	70	85	96	98
1988	25	35	55	75	95	97	100
1989	10	20	35	65	90	98	100
1990	15	25	60	85	98	100	100
1991	25	40	73	93	100	100	100
1992	4	9	17	36	96	99	100
1993	5	16	31	56	99	99	100
1994	35	56	72	84	100	100	100
1995	4	15	57	82	100	100	100

KANSAS SORGHUM HARVESTED: Percent of Acreage by Specified Dates, 1990-94 Averages

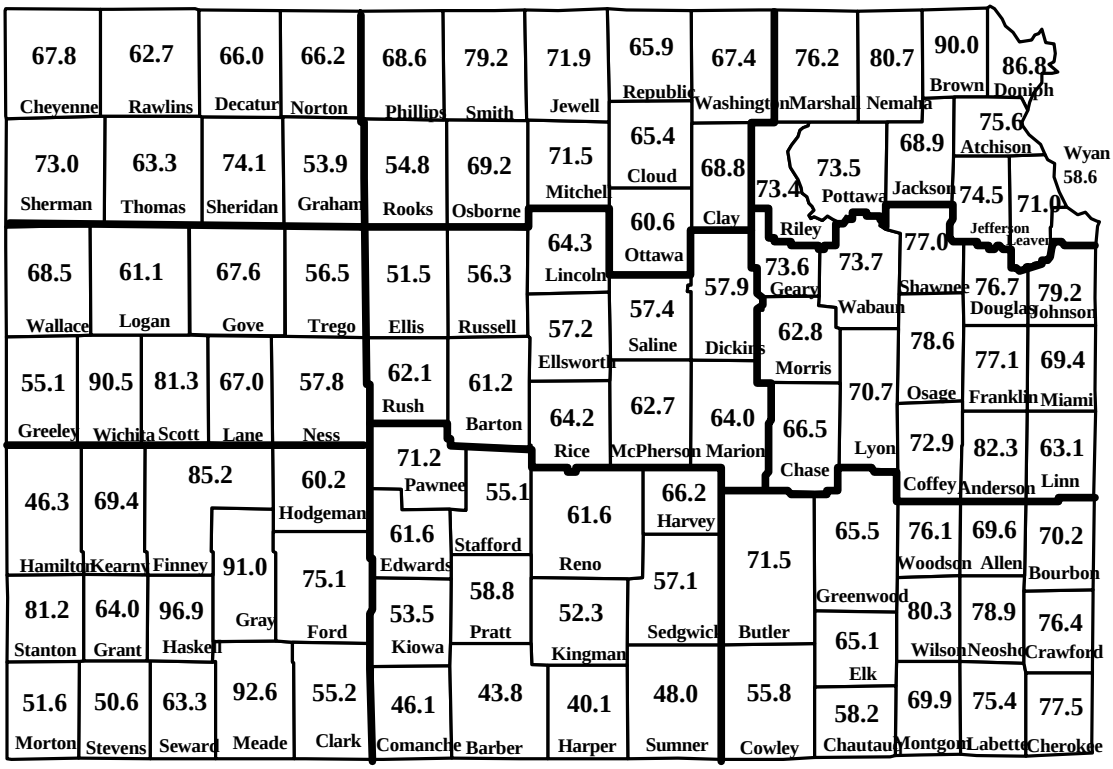
District	October				November		
	1	10	20	30	10	20	30
NW	7	17	34	58	76	88	92
WC	13	26	47	68	86	93	95
SW	8	16	37	60	80	89	94
NC	8	20	45	70	84	91	93
C	16	27	51	74	84	89	90
SC	21	36	56	74	85	89	91
NE	21	33	51	74	87	93	95
EC	22	37	59	76	88	93	95
SE	33	50	71	85	93	95	97
STATE	16	29	50	71	84	91	93

KANSAS SORGHUM YIELDS

(1945-1995)



SORGHUM GRAIN: YIELD PER HARVESTED ACRE, 1990-1994 AVERAGE (Bushels)



CORN

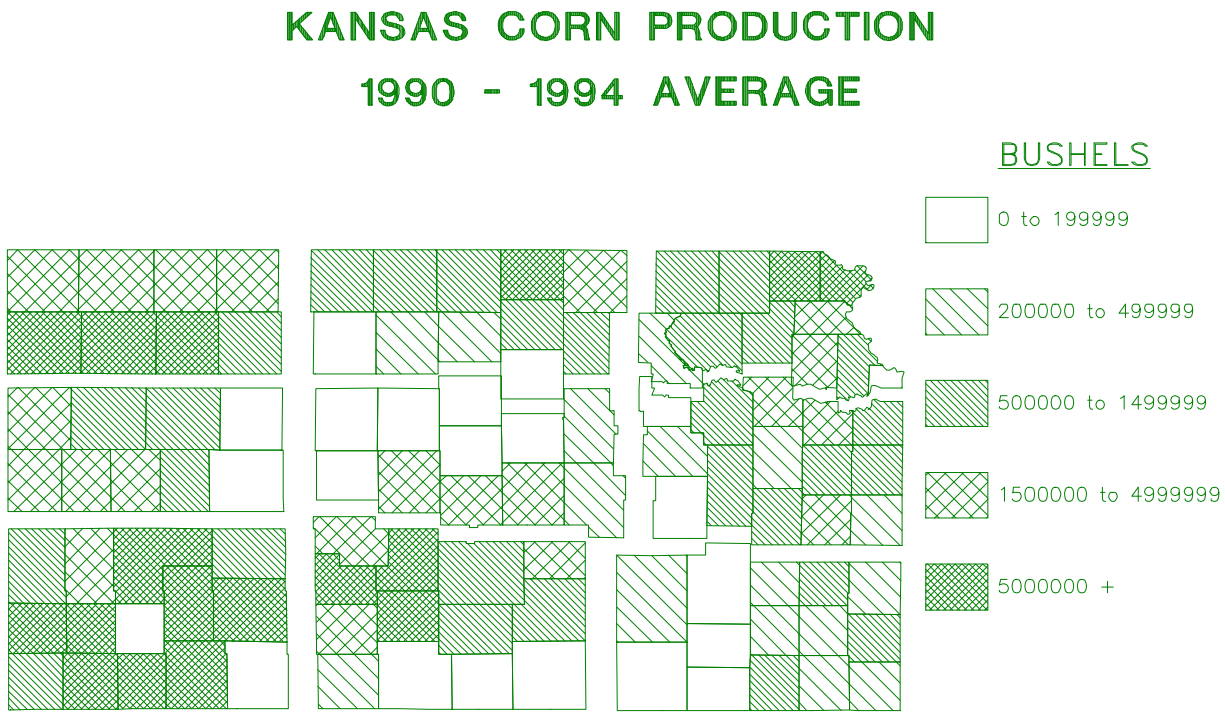
In Kansas, corn planting starts in early April and is generally completed by the second week of June. Planting begins first in the southeast, where an average of 37 percent of the acreage was planted by April 10 for the 1990-94 period. Planting is at its peak during the first week of May. An average of 72 percent of the corn planting was completed by May 10 during the 1990-94 period.

By the first week of July, corn starts to silk. The silking stage lasts four to five weeks, with most of the corn having silked by August 10. Corn reaches the silk stage later in the northwest and west central districts, while the southeast district leads in the silking of corn.

Corn reached the dent stage in the central and eastern districts by August 1, progressing to 83 percent in the denting stage state-wide by September 10. Corn denting was later in the western districts.

Corn reached maturity between August 10 and October 20, with 91 percent of the acreage mature by September 30. Harvest covers a three month period of September through November. For the 1986-95 period, harvest was at least 97 percent complete by November 10 in 7 of the 10 years. Harvest was the slowest in 1992 when only 91 percent had been harvested by November 20.

State production of corn averaged 235.0 million bushels during the period 1990-94. The yield during this period averaged 133.6 bushels per acre. A record high yield of 150.0 bushels per acre was achieved in 1992. Record high production of 304.6 million bushels was achieved in 1994. Forty percent of the State's total production of corn was grown in the southwest district during this period. Haskell county ranked first among counties with an average production of 16.5 million bushels.



KANSAS CORN PLANTED: Percent of Acreage by Specified Dates, 1986-95

Year	April			May			June		
	10	20	30	10	20	30	10	20	30
1986	4	20	45	80	95	98	99	100	100
1987	2	10	45	70	90	98	100	100	100
1988	3	20	45	70	90	97	99	100	100
1989	4	10	45	75	95	96	99	100	100
1990	2	10	35	65	85	96	100	100	100
1991	16	31	53	71	91	98	99	100	100
1992	8	24	57	87	98	99	99	99	100
1993	0	5	21	60	73	89	98	99	100
1994	5	18	47	77	95	99	100	100	100
1995	3	9	18	29	51	61	86	98	100

KANSAS CORN PLANTED: Percent of Acreage by Specified Dates, 1990-94

District	April			May			June		
	10	20	30	10	20	30	10	20	30
NW	0	2	14	53	81	96	100	100	100
WC	2	10	31	63	88	98	100	100	100
SW	4	21	55	80	95	99	100	100	100
NC	3	10	31	61	85	95	99	100	100
C	7	23	58	82	90	94	99	100	100
SC	14	40	71	91	98	99	100	100	100
NE	3	11	30	57	75	89	98	100	100
EC	15	31	59	75	86	96	99	100	100
SE	37	54	78	90	98	99	100	100	100
STATE	6	18	43	72	89	97	99	100	100

KANSAS CORN SILKED: Percent of Acreage by Specified Dates, 1986-95

Year	July				August		
	1	10	20	30	10	20	30
1986	15	35	70	90	99	99	100
1987	20	45	70	90	97	99	100
1988	5	30	70	90	98	100	100
1989	5	25	50	75	95	99	100
1990	5	30	60	85	98	100	100
1991	24	53	84	96	100	100	100
1992	11	26	58	85	93	99	100
1993	4	17	53	80	94	98	100
1994	14	46	80	98	100	100	100
1995	1	11	22	51	82	97	100

KANSAS CORN SILKED: Percent of Acreage by Specified Dates, 1990-94 Averages

District	July				August		
	1	10	20	30	10	20	30
NW	1	8	34	73	94	99	100
WC	6	21	53	80	97	100	100
SW	6	30	72	93	99	100	100
NC	9	30	68	88	98	100	100
C	11	44	78	94	99	100	100
SC	34	62	86	97	99	100	100
NE	10	34	67	85	96	100	100
EC	22	53	81	94	99	100	100
SE	51	82	95	99	100	100	100
STATE	12	34	67	89	97	99	100

KANSAS CORN DENTED: Percent of Acreage by Specified Dates, 1986-95

Year	August				September		
	1	10	20	30	10	20	30
1986	10	25	50	75	90	98	100
1987	3	30	55	75	90	97	100
1988	3	25	50	75	95	98	100
1989	3	20	40	55	80	90	100
1990	2	15	35	60	85	97	100
1991	10	34	59	77	87	96	100
1992	2	12	27	50	72	86	95
1993	0	9	31	51	75	91	100
1994	3	20	51	83	96	100	100
1995	0	3	9	30	68	91	100

KANSAS CORN DENTED: Percent of Acreage by Specified Dates, 1990-94 Averages

District	August				September		
	1	10	20	30	10	20	30
NW	0	2	8	33	63	83	93
WC	0	10	22	45	71	91	100
SW	0	18	46	70	91	99	100
NC	3	9	24	54	83	97	100
C	2	22	45	69	90	97	100
SC	6	41	65	82	95	99	100
NE	3	13	37	63	83	95	100
EC	5	27	58	77	92	98	100
SE	22	56	79	93	98	100	100
STATE	3	18	41	64	83	94	99

KANSAS CORN MATURED: Percent of Acreage by Specified Dates, 1986-95

Year	August		September			October	
	20	30	10	20	30	10	20
1986	20	40	65	80	95	99	99
1987	30	45	65	80	95	99	100
1988	25	50	75	90	95	99	100
1989	15	30	45	70	90	98	100
1990	15	25	50	75	90	98	100
1991	34	52	71	86	97	100	100
1992	14	24	50	73	85	93	98
1993	9	20	44	66	86	97	100
1994	7	27	61	85	97	100	100
1995	1	4	18	28	68	94	100

KANSAS CORN MATURED: Percent of Acreage by Specified Dates, 1990-94 Averages

District	August		September			October	
	20	30	10	20	30	10	20
NW	3	9	22	41	71	88	97
WC	1	9	29	62	83	96	99
SW	11	27	60	86	97	100	100
NC	3	15	37	65	90	98	100
C	22	38	64	83	94	100	100
SC	29	48	77	92	99	100	100
NE	22	33	53	82	94	99	100
EC	30	53	76	92	100	100	100
SE	54	75	91	97	100	100	100
STATE	16	30	55	77	91	98	100

KANSAS CORN HARVESTED: Percent of Acreage by Specified Dates, 1986-95

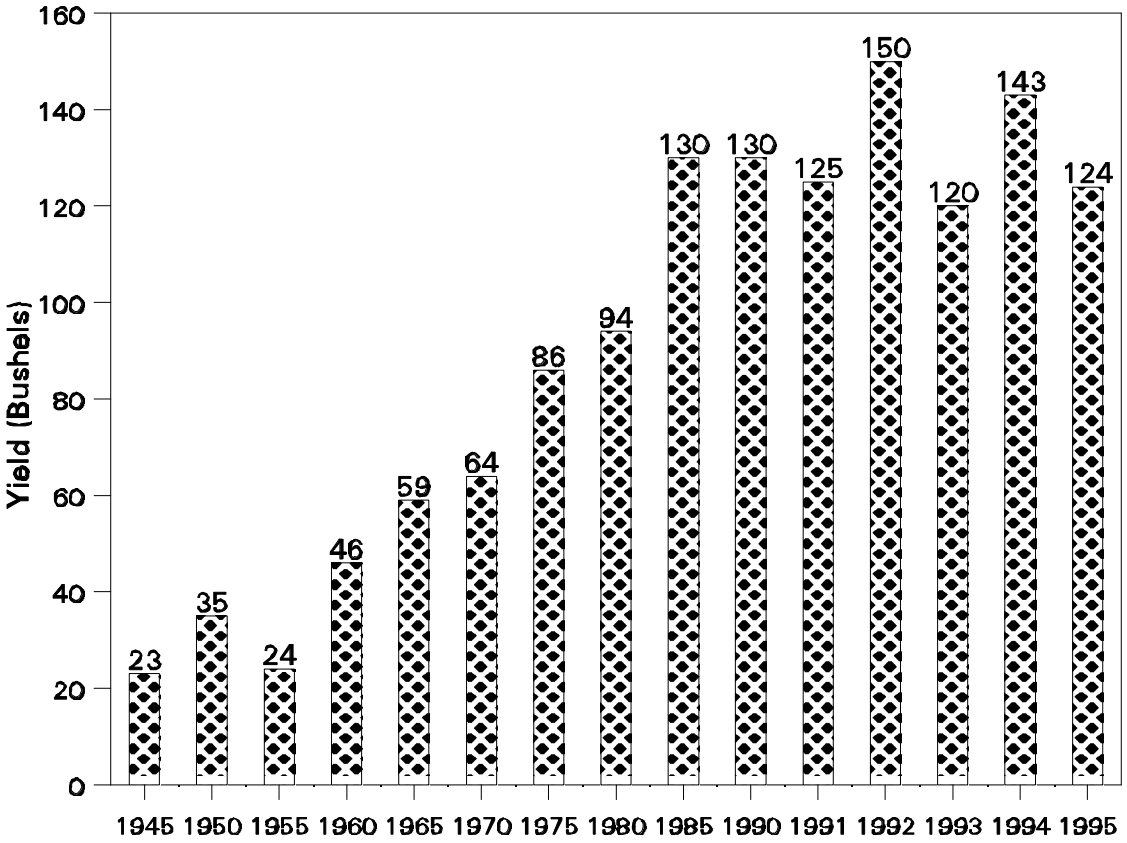
Year	September			October			November		
	10	20	30	10	20	30	10	20	30
1986	10	25	45	55	70	80	90	95	97
1987	15	30	50	75	85	96	99	100	100
1988	15	45	60	70	85	95	99	100	100
1989	3	10	30	55	75	85	97	98	100
1990	10	30	50	65	85	95	99	100	100
1991	25	45	65	82	93	98	99	100	100
1992	8	20	36	51	66	79	84	91	92
1993	10	19	32	50	66	79	90	96	100
1994	10	28	57	75	88	94	99	100	100
1995	2	3	11	33	57	86	97	99	100

KANSAS CORN HARVESTED: Percent of Acreage by Specified Dates, 1990-94 Averages

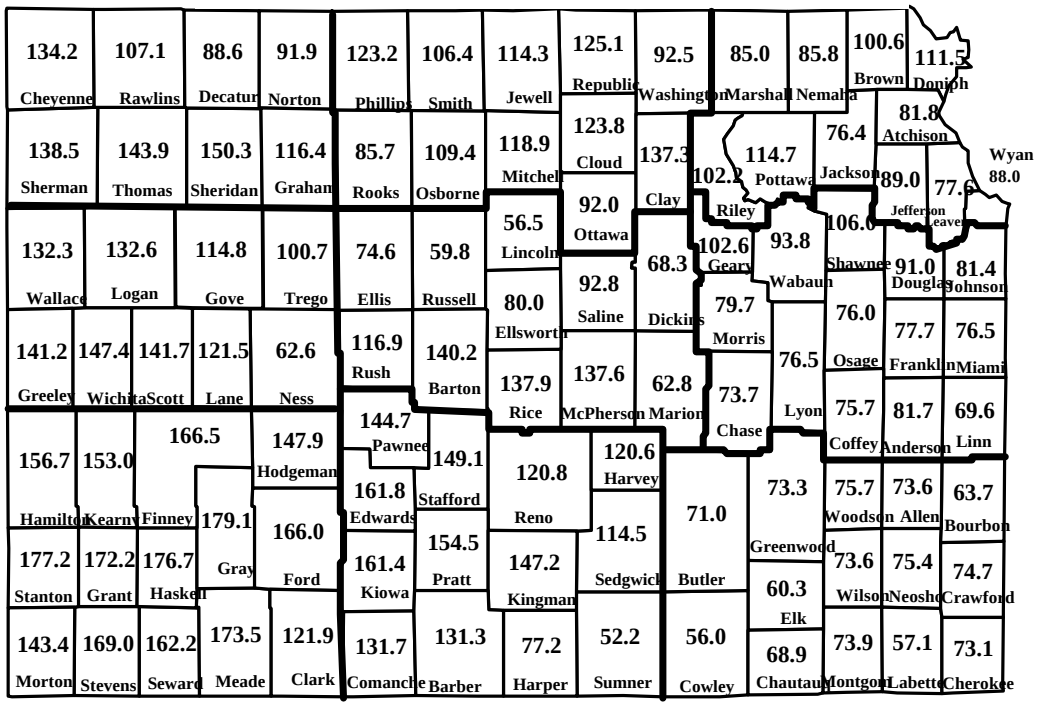
District	September			October			November		
	10	20	30	10	20	30	10	20	30
NW	0	5	9	25	45	64	80	90	93
WC	8	22	38	61	79	92	96	98	99
SW	11	28	54	76	91	97	99	99	100
NC	4	14	28	48	67	84	96	99	100
C	14	35	58	76	88	95	98	99	100
SC	32	58	83	94	98	99	100	100	100
NE	10	24	42	58	72	83	92	95	97
EC	13	29	48	67	81	89	96	98	99
SE	35	61	76	90	96	99	100	100	100
STATE	13	28	48	65	79	89	94	97	98

KANSAS CORN YIELDS

(1945-1995)



CORN: YIELD PER HARVESTED ACRE, 1990-1994 AVERAGE (Bushels)



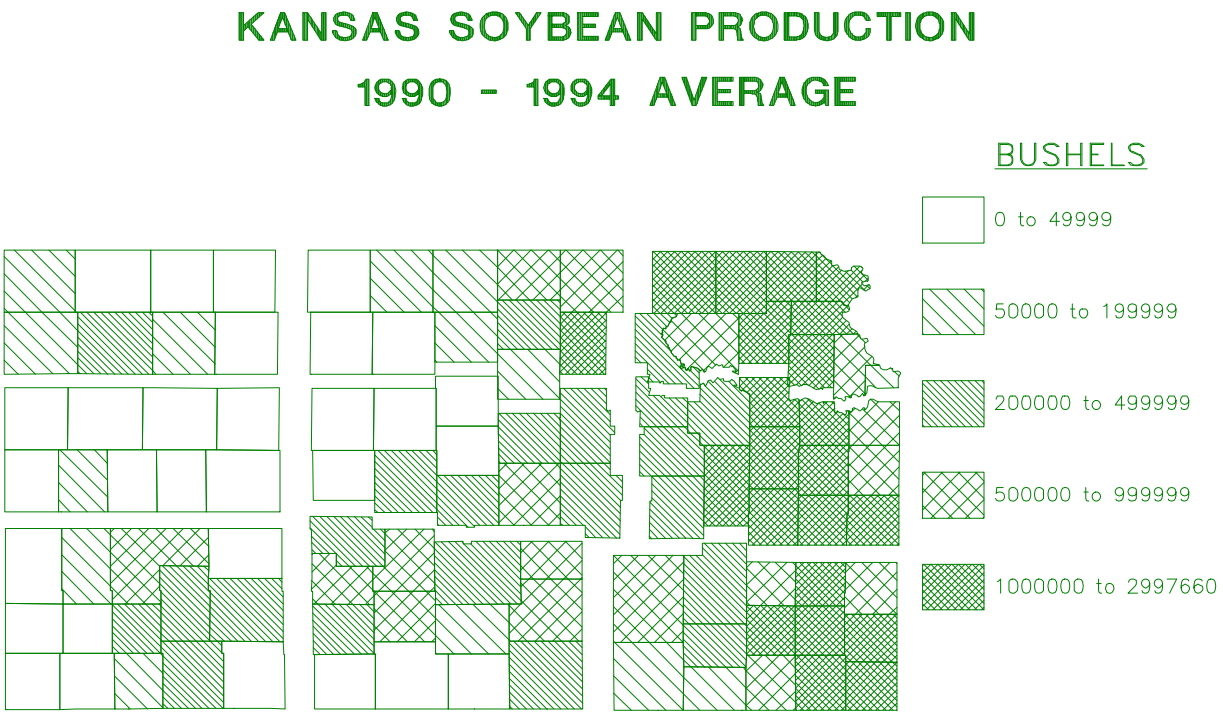
SOYBEANS

Planting of soybeans in Kansas begins the first week of May and is more than half completed by June 10. For the years 1990-94, 93 percent of the acreage was planted by June 30th. Double cropping after wheat extends the planting season over a long period of time, particularly in the southeast, but planting is virtually complete by July 20.

Soybean pods appear about July 10 and virtually all fields are podded by September 20.

Harvest of Kansas soybeans usually gets underway during the last week of September. The latest harvest during the 1986-95 period was in 1986 when only 55 percent of the acreage was harvested by November 10. Harvest continues the longest in eastern Kansas, but is virtually wrapped up by November 30.

Soybean production is most significant in the eastern one-third of the State. Brown county led the State in production with an average of 3.0 million bushels per year for the 1990-94 period. The State average for this period was 57.1 million bushels annually. State soybean yields for the five-year period average 29.4 bushels per acre. A record high yield of 37.0 bushels per acre was attained in 1992. A new production record of 73.5 million bushels was set in 1994.



KANSAS SOYBEANS PLANTED: Percent of Acreage by Specified Dates, 1986-95

Year	May			June			July	
	10	20	30	10	20	30	10	20
1986	10	20	35	65	85	95	99	100
1987	10	30	45	65	85	90	96	99
1988	10	30	50	80	90	95	97	100
1989	10	20	35	55	75	90	96	99
1990	10	20	35	60	80	90	97	100
1991	6	25	42	73	89	97	99	100
1992	11	31	48	62	75	87	97	99
1993	1	3	16	51	80	90	96	98
1994	8	34	69	86	95	99	100	100
1995	1	2	3	11	53	83	94	100

KANSAS SOYBEANS PLANTED: Percent of Acreage by Specified Dates, 1990-94 Averages

District	May			June			July	
	10	20	30	10	20	30	10	20
NW	5	19	44	77	95	100	100	100
WC	4	20	45	74	93	100	100	100
SW	11	40	66	84	97	100	100	100
NC	5	15	39	67	91	98	100	100
C	8	22	38	65	86	96	99	100
SC	16	42	62	78	89	94	98	100
NE	7	25	48	76	92	97	100	100
EC	8	23	41	68	86	95	99	99
SE	5	14	31	49	70	83	95	99
STATE	7	22	42	67	84	93	98	99

KANSAS SOYBEANS PODDING: Percent of Acreage by Specified Dates, 1986-95

Year	July			August			September	
	10	20	30	10	20	30	10	20
1986	3	15	30	60	85	95	98	100
1987	10	20	35	65	80	90	97	99
1988	4	10	30	65	80	95	99	100
1989	3	10	20	40	65	85	95	99
1990	2	5	15	40	65	85	97	99
1991	9	18	38	65	80	92	98	100
1992	1	6	17	47	73	88	98	99
1993	0	3	10	42	70	82	99	99
1994	2	9	34	68	89	96	99	100
1995	0	0	2	14	43	76	96	100

KANSAS SOYBEANS PODDING: Percent of Acreage by Specified Dates, 1990-94 Averages

District	July			August			September	
	10	20	30	10	20	30	10	20
NW	0	1	19	55	82	92	99	100
WC	0	8	30	66	83	96	100	100
SW	2	12	38	72	90	98	100	100
NC	1	4	14	50	81	97	99	100
C	2	7	30	65	82	92	99	100
SC	8	21	41	74	89	96	100	100
NE	1	5	18	58	80	93	99	100
EC	3	8	19	50	77	89	98	100
SE	3	7	17	38	59	78	96	99
STATE	3	8	23	52	75	88	98	99

KANSAS SOYBEANS HARVESTED: Percent of Acreage by Specified Dates, 1986-95

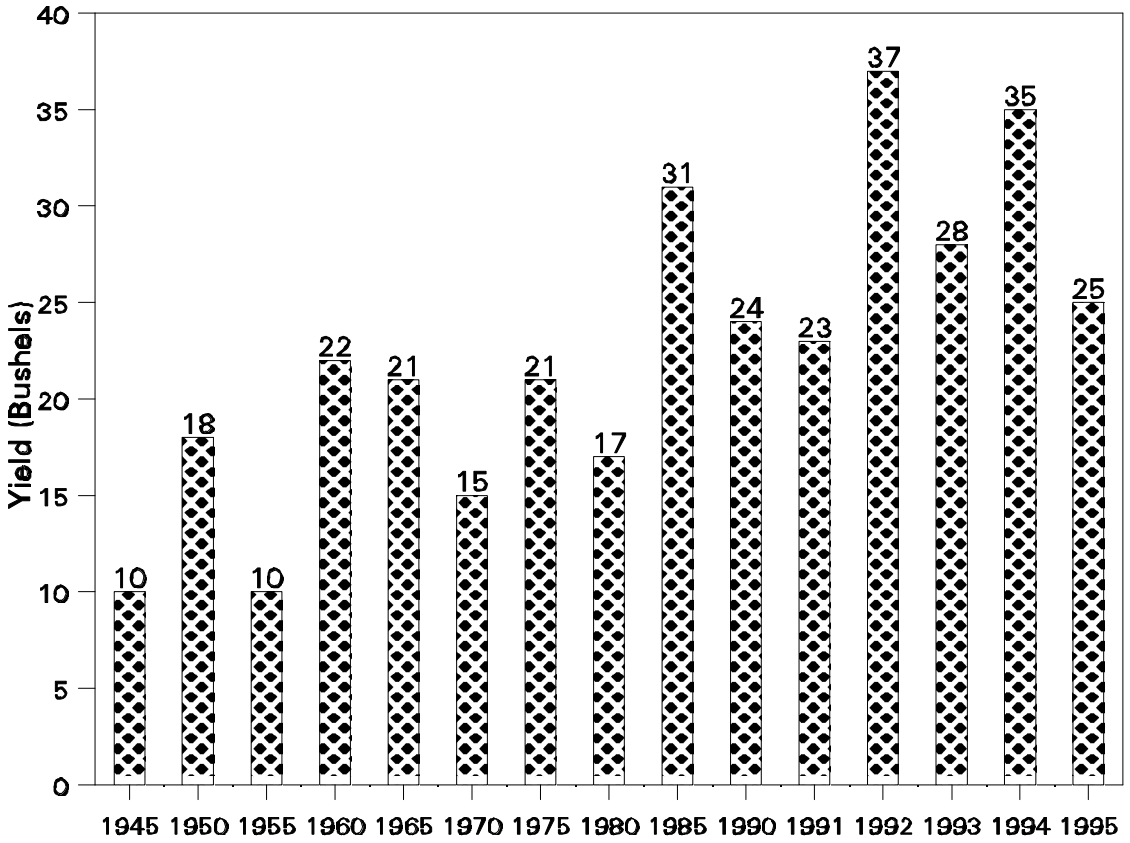
Year	October				November		
	1	10	20	30	10	20	30
1986	10	20	30	45	55	70	80
1987	15	45	65	85	96	98	99
1988	25	45	65	85	96	98	100
1989	5	20	45	75	90	97	100
1990	15	35	60	90	97	99	100
1991	33	55	83	95	98	99	100
1992	20	45	62	83	89	92	93
1993	6	27	52	76	94	97	100
1994	31	47	61	78	88	95	100
1995	2	19	66	89	98	99	100

KANSAS SOYBEANS HARVESTED: Percent of Acreage by Specified Dates, 1990-94 Averages

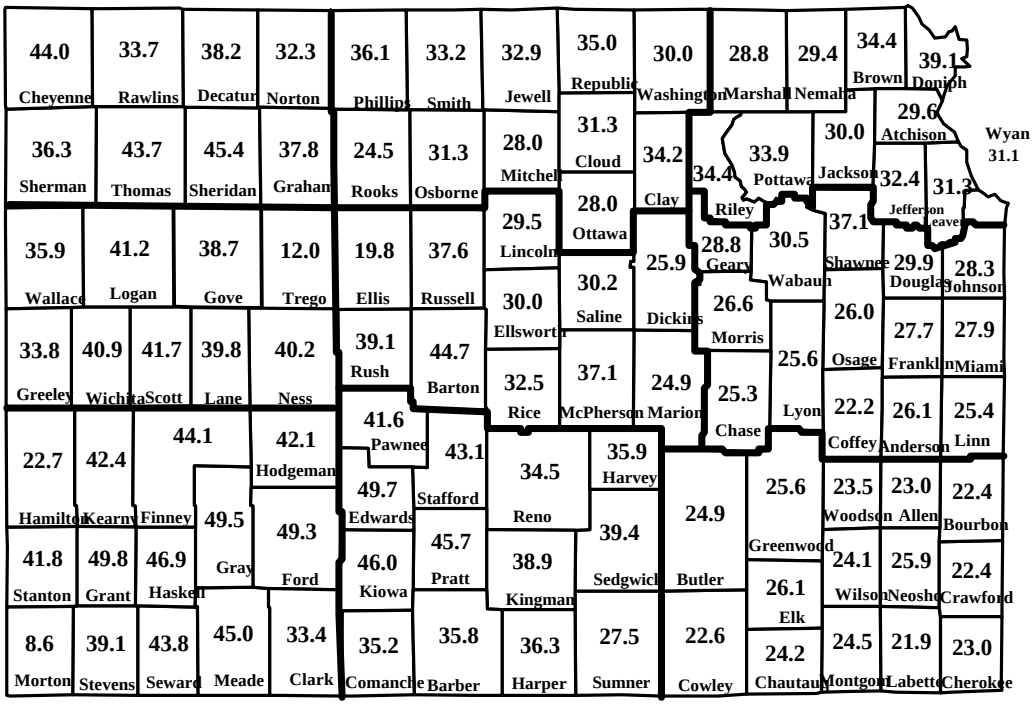
District	October				November		
	1	10	20	30	10	20	30
NW	37	63	85	98	100	100	100
WC	30	64	88	98	100	100	100
SW	23	54	83	96	99	100	100
NC	21	45	75	94	99	100	100
C	29	51	78	94	99	100	100
SC	35	60	82	95	99	99	99
NE	21	46	68	89	97	99	100
EC	22	46	68	86	94	98	99
SE	14	27	48	71	86	91	96
STATE	21	42	64	84	93	96	99

KANSAS SOYBEAN YIELDS

(1945-1995)



SOYBEANS: YIELD PER HARVESTED ACRE, 1990-1994 AVERAGE (Bushels)

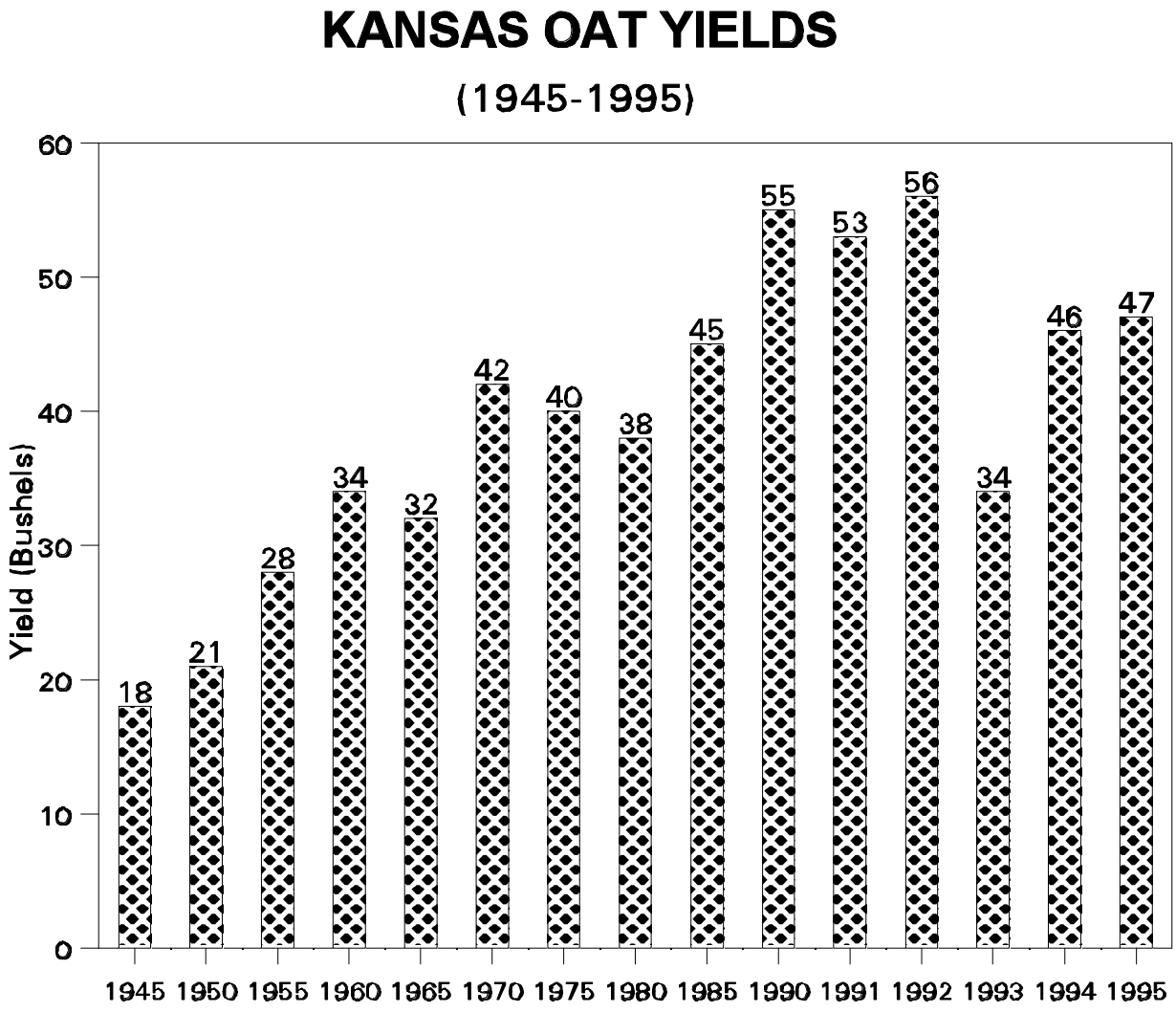


OATS

Oat planting begins in mid-February and is virtually complete by the middle of April. Most of the oat acreage is seeded during the month of March. An average of 84 percent of the oat acreage was planted by April 10 for the period 1990-94. Wet weather in 1993 delayed seeding. The average for this period, excluding 1993, was 96 percent. Harvesting of oats starts towards the end of June and is usually completed by mid-August.

Oat production for the years 1990-94 was the lowest in 1993 when only 1.0 million bushels were produced. In that year, wet weather hampered planting and growth of the crop. Average production for the State over the five-year period was 5.4 million bushels annually, with the largest annual production of 7.8 million bushels in 1992. Oat production is most significant in the eastern two-thirds of the State, which accounts for over 90 percent of the total State production.

The State average oat yield in the five-year period 1990-94 was 48.8 bushels per acre. State yields were in a range of 34.0 to 56.0 bushels per acre over this period.

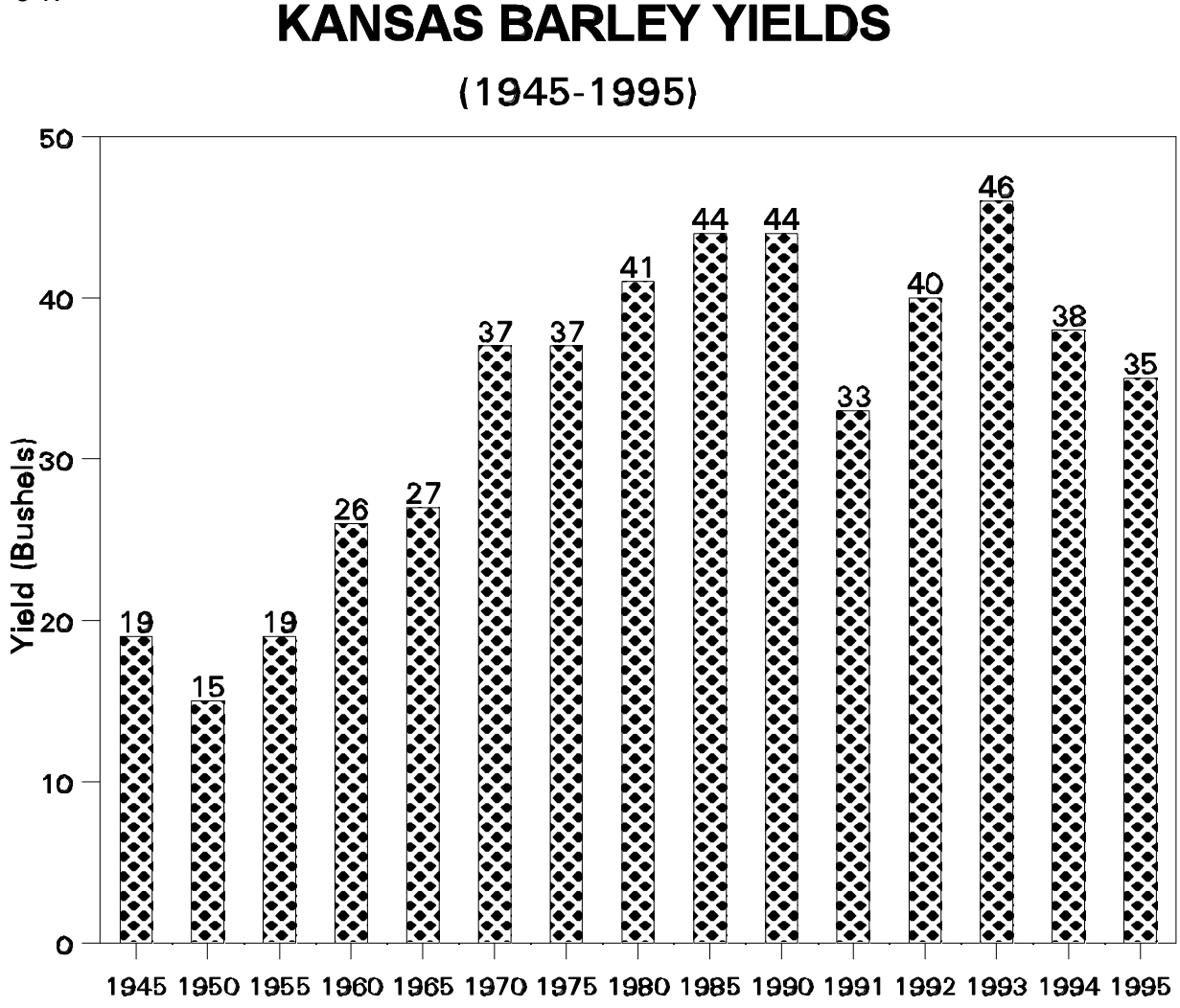


BARLEY

Seeding of winter barley varieties usually begins in September and is virtually completed by early November. The 1990-94 period was characteristic of the usual barley seeding season as an average of 21 percent of the crop was seeded by October 1 and 96 percent was seeded by November 1. The peak seeding time for winter barley occurs in the first two weeks of October. Spring barley is usually seeded during March and April. For the five year period 1990-94, 6 percent was seeded by March 1 and 75 percent by April 1. By April 30, all of the crop was sown, except in 1993 when wet weather delayed or prevented seeding.

An annual average of 765,000 bushels of barley was produced in Kansas over the 1990-94 period. Production was only 13 percent of the total average from the previous five years. The west central district led the State in barley production over this period with an annual average of 161,720 bushels.

The State average yield was 40.2 bushels per acre for the period 1990-94. The southeast district had the highest yield in the State averaging 43.5 bushels per acre for the period 1990-94.



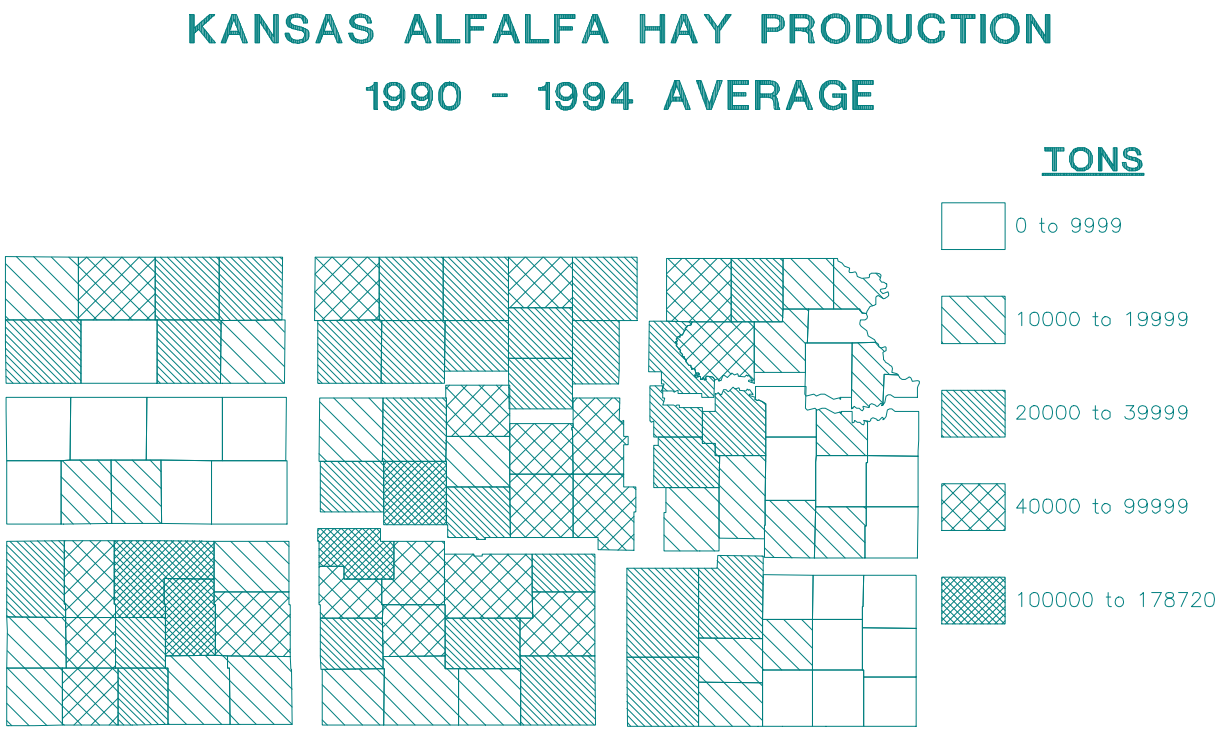
ALFALFA HAY

First cutting of alfalfa begins in early May and progresses rapidly to completion by the end of June. The percentage of the first cutting harvested by May 30 fluctuates widely as only 14 percent was harvested in 1995 compared with 80 percent in 1986. The average harvest completion rate for that date over the 1990-94 period is 57 percent.

The second alfalfa crop harvest starts around June 10 and is well underway by June 20. Historically the northwest district has been slower in completing harvest of the second crop compared with the rest of the State. The second cutting is virtually completed in Kansas by the end of July.

Third cutting of alfalfa usually begins the first part of July and is complete by the end of September. About 35 percent of the crop is cut in July, 55 percent in August, and the remainder in September. A final cutting of the year starts in the later part of August and runs well into October. An average of 72 percent of the fourth cutting is harvested by September 30.

State production of alfalfa averaged 3.1 million tons annually in the 1990-94 period. The average yield during this period was 3.8 tons per acre. Finney County, located in the southwest, averaged 178,720 tons of alfalfa produced per year for the period 1990-94 to lead the State.



KANSAS ALFALFA HAY, FIRST CUTTING: Percent Harvested by Specified Dates, 1986-95

Year	May			June		
	10	20	30	10	20	30
1986	20	55	80	95	99	100
1987	5	35	60	90	99	100
1988	10	40	70	95	99	100
1989	10	20	50	80	95	100
1990	2	15	40	85	98	100
1991	8	37	61	89	99	100
1992	18	44	68	83	93	100
1993	2	9	43	84	97	100
1994	5	37	75	98	100	100
1995	2	8	14	45	90	100

KANSAS ALFALFA HAY, FIRST CUTTING: Percent Harvested by Specified Dates, 1990-94 Averages

District	May			June		
	10	20	30	10	20	30
NW	1	12	41	81	98	100
WC	2	25	58	92	99	100
SW	9	38	67	94	99	100
NC	2	15	45	84	97	100
C	5	23	52	90	97	100
SC	13	45	74	93	98	100
NE	3	16	48	80	93	100
EC	7	23	49	82	96	100
SE	8	35	69	93	100	100
STATE	7	28	57	88	97	100

KANSAS ALFALFA HAY, SECOND CUTTING: Percent Harvested by Specified Dates, 1986-95

Year	June			July		
	10	20	30	10	20	30
1986	10	35	65	85	95	99
1987	5	25	45	70	90	98
1988	10	30	55	80	90	99
1989	1	15	40	70	90	98
1990	2	15	45	75	90	99
1991	9	30	54	82	94	100
1992	3	11	35	66	82	91
1993	2	8	29	49	62	81
1994	4	25	65	89	98	100
1995	3	11	23	51	83	99

KANSAS ALFALFA HAY, SECOND CUTTING: Percent Harvested by Specified Dates, 1990-94 Averages

District	June			July		
	10	20	30	10	20	30
NW	0	4	26	60	86	96
WC	5	23	46	67	84	98
SW	5	22	47	77	91	98
NC	1	9	36	63	76	85
C	1	10	38	66	83	97
SC	8	34	63	86	94	99
NE	3	15	40	63	78	86
EC	3	14	42	65	81	91
SE	7	27	62	86	95	99
STATE	4	18	46	72	85	94

KANSAS ALFALFA HAY, THIRD CUTTING: Percent Harvested by Specified Dates, 1986-95

Year	July			August			September		
	10	20	30	10	20	30	10	20	30
1986	10	30	55	80	90	96	98	100	100
1987	5	20	45	65	80	95	97	98	99
1988	10	20	45	80	95	98	99	99	99
1989	5	15	40	70	85	90	97	99	100
1990	10	10	35	60	80	95	99	99	100
1991	10	26	47	72	85	89	99	100	100
1992	3	9	24	46	73	90	97	99	100
1993	1	4	21	47	74	87	96	98	100
1994	10	23	53	84	96	100	100	100	100
1995	2	7	22	59	85	94	99	100	100

KANSAS ALFALFA HAY, THIRD CUTTING: Percent Harvested by Specified Dates, 1990-94 Averages

District	July			August			September		
	10	20	30	10	20	30	10	20	30
NW	1	5	18	40	71	84	94	99	100
WC	1	8	28	64	78	92	98	100	100
SW	2	10	40	67	84	96	100	100	100
NC	2	6	26	55	81	93	99	100	100
C	4	7	31	53	75	90	98	98	100
SC	9	19	49	79	93	98	100	100	100
NE	4	13	27	48	72	87	99	100	100
EC	9	18	34	66	81	92	97	99	100
SE	6	15	41	69	86	95	97	100	100
STATE	7	14	36	62	82	92	98	99	100

KANSAS ALFALFA HAY, FOURTH CUTTING: Percent Harvested by Specified Dates, 1986-95

Year	September			
	1	10	20	30
1986	30	45	55	75
1987	25	40	50	70
1988	30	50	65	75
1989	20	35	50	65
1990	25	40	55	70
1991	34	57	57	70
1992	15	32	47	66
1993	16	34	47	70
1994	40	51	71	86
1995	26	37	46	60

KANSAS ALFALFA HAY, FOURTH CUTTING: Percent Harvested by Specified Dates, 1990-94 Averages

District	September			
	1	10	20	30
NW	13	26	45	73
WC	19	34	55	81
SW	32	50	60	75
NC	19	35	54	77
C	18	30	49	67
SC	43	61	76	91
NE	20	31	45	63
EC	29	36	43	62
SE	19	37	50	69
STATE	26	43	55	72

CLIMATE OF KANSAS

by Mary Knapp
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Manhattan, KS 66506-3400

Kansas has what is typically described as a continental climate, without the influence of any major bodies of water. Summers are warm, with the majority of the annual precipitation occurring during this period. Winters tend to be cold with an occasional mild spell and moderate snowfall amounts. Annual average precipitation ranges between approximately 40 inches in the southeastern part of the state to less than 20 inches in the western part of the state. Annual average snowfall ranges from 40 inches in the northwest to less than 15 inches in the southeast.

Because Kansas lies in the center of the United States it is subject to varying weather patterns as air masses move across the state. Much of the severe weather for which Kansas is often noted is due to weather patterns that bring cold dry air into contact with warm moist air.

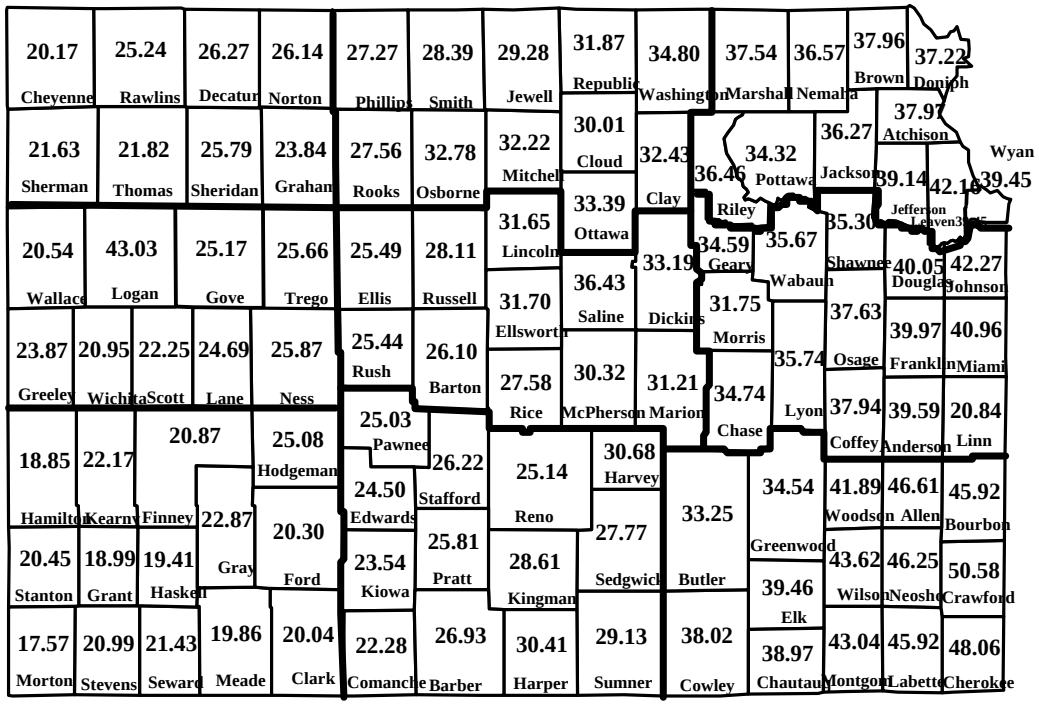
Sharp changes in temperature occur many times during the year. In a short span, temperatures can swing from near sixty to almost zero then several days later rebound. This type of temperature swing would indicate the arrival of an arctic air mass followed by the return of a warm air mass, generally associated with southerly breezes.

The prevailing wind direction for most of the state is from the south. The average annual wind speed for the first order stations in Kansas are as follows: Dodge City, 14 miles per hour (mph); Goodland, 12.7 mph; Wichita, 12.5 mph; Concordia, 12.2 mph; Topeka, 10.4 mph. Much of Kansas is windier than the "Windy City" of Chicago, which reports an annual wind speed of 10.4 miles per hour.

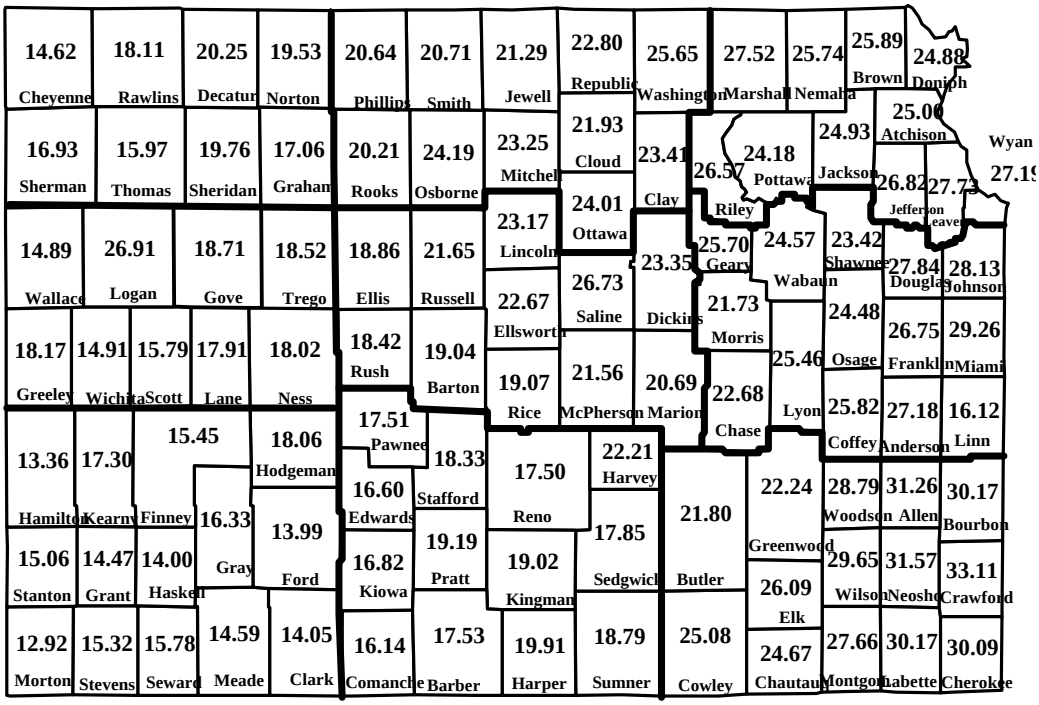
Extreme temperatures reported in the state range from a high of 121◦F (Fredonia July 18, 1936 and Alton July 24, 1936) to a low of -40◦F (Lebanon February 13, 1905). Despite these extremes, Kansas is noted for its agriculture, consistently figuring among the top states in the production of wheat, sorghum, soybeans, and beef.

For additional information regarding the Climate of Kansas, check the "Kansas Climate Atlas" available from the Kansas Geological Survey Press, or contact the State Climatologist at Kansas State University.

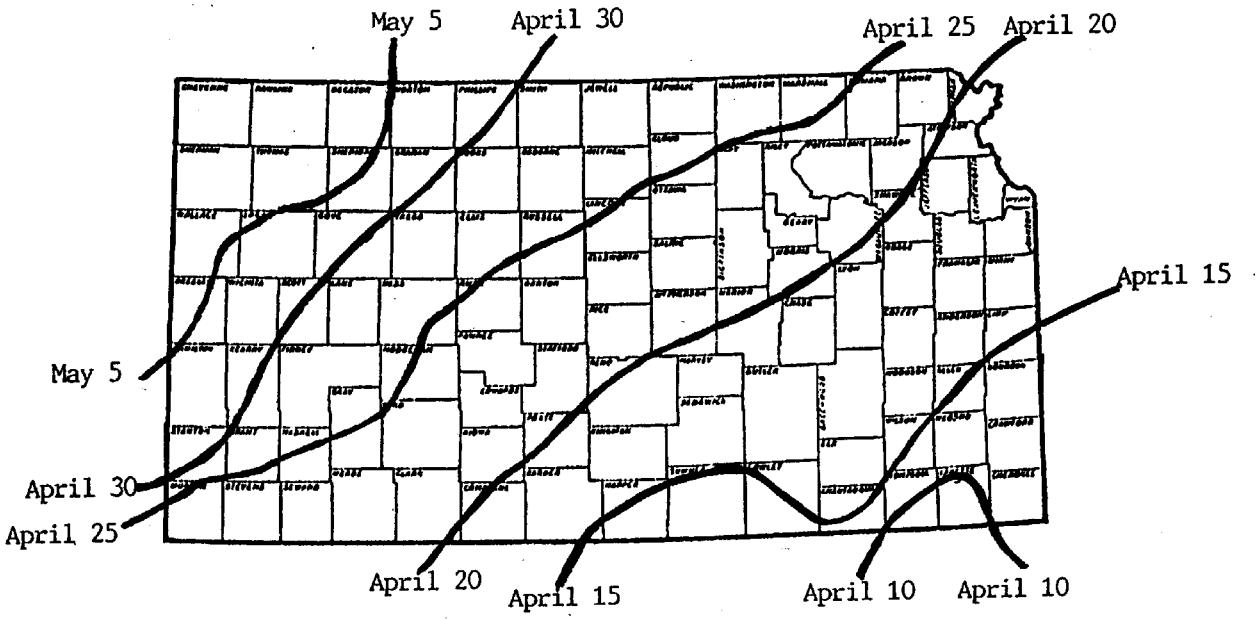
AVERAGE ANNUAL PRECIPITATION, 1990-94 PERIOD
(Inches)



AVERAGE GROWING SEASON PRECIPITATION
April Through September, 1990-94 Period
(Inches)

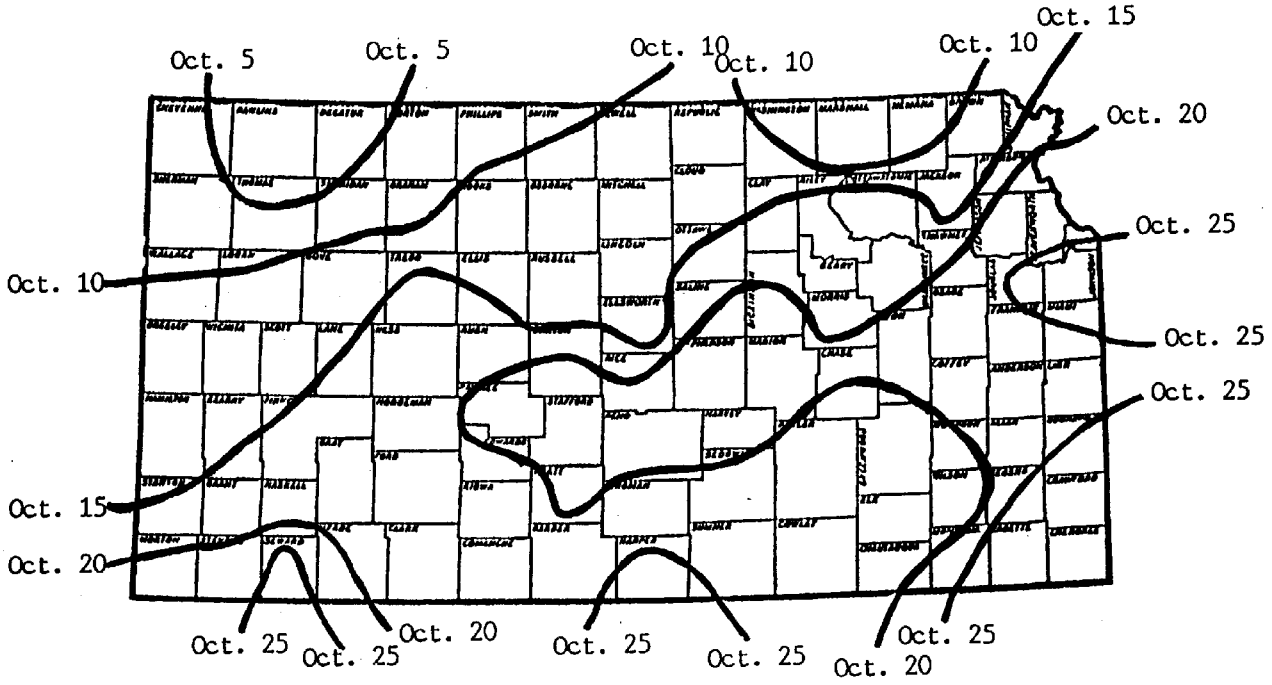


AVERAGE DATE OF LAST 32° FREEZE IN SPRING 1/



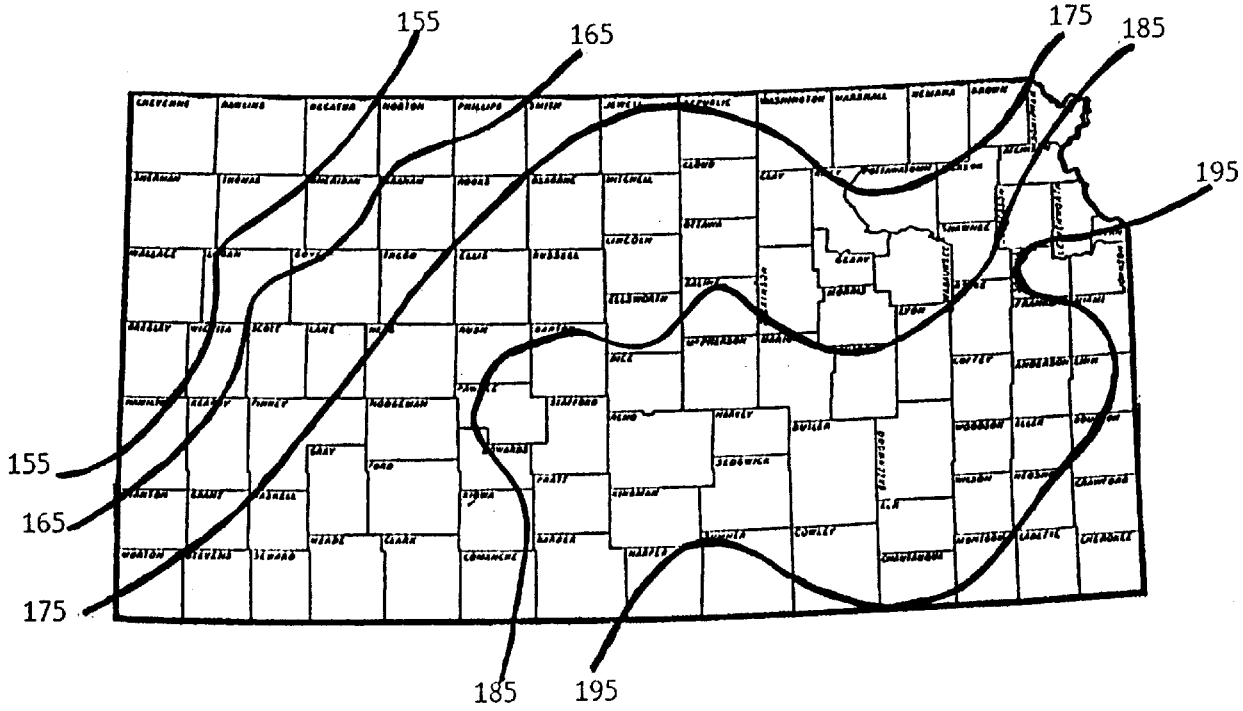
1/ Map shows 1951-80. 1961-90 data not available at this time.

AVERAGE DATE OF FIRST 32° FREEZE IN FALL 1/



1/ Map shows 1951-80. 1961-90 data not available at this time.

AVERAGE NUMBER OF FROST-FREE DAYS IN KANSAS
(Based on 32° F - Freeze)



1/ Map shows 1951-80. 1961-90 data not available at this time.