

PEST MANAGEMENT PRACTICES

for the complete report see <http://usda.mannlib.cornell.edu/reports/nassr/other/pest/>

Information presented here is based on data compiled from a survey conducted in the Fall of 1998. All results refer to responses from sampled producers concerning specific practices. The producers were asked how many acres of a specific commodity they had, and what pesticide management practices they used. The producers were asked a series of questions to which they responded yes or no. Pests were defined as weeds, insects, and diseases. If the respondent used a specific practice on a crop, it was assumed that the practice was used on all of the acres of that crop. For example, if a producer had 500 acres of wheat, and used field mapping of previous weed problems to assist in making weed management decisions, it was assumed that all 500 acres were mapped.

Each question has been categorized into one of four pest management categories: prevention, avoidance, monitoring, and suppression.

The data is published in two ways for each crop: percent of acres receiving the specific pest management practice and percent of farms utilizing the specific pest management practice. These percentages are published at the U.S. and regional level. For a specific crop, the percentages refer only to the farms and acres on which that crop is grown. If the percentage is less than one percent or there were too few reports to publish the percentage, an asterisk or double asterisk was used in the table. Dashes indicate there were no reports of the practice being used.

Prevention is the practice of keeping a pest population from infesting a crop or field. It includes such tactics as using pest-free seeds and transplants, preventing weeds from reproducing, choosing cultivars with genetic resistance to insects or disease, irrigation scheduling to avoid situations conducive to disease development, cleaning tillage and harvesting equipment between

fields or operations, using field sanitation procedures, and eliminating alternate hosts or sites for insect pests and disease organisms.

Avoidance may be practiced when pest populations exist in a field or site but the impact of the pest on the crop can be avoided through some cultural practice. Examples of avoidance tactics include crop rotation such that the crop of choice is not a host for the pest, choosing cultivars with genetic resistance to pests, using trap crops, choosing cultivars with maturity dates that may allow harvest before pest populations develop, fertilization programs to promote rapid crop development, and simply not planting certain areas of fields where pest populations are likely to cause crop failure. Some tactics for prevention and avoidance strategies may overlap.

Monitoring includes proper identification of pests through surveys or scouting programs, including trapping, weather monitoring, and soil testing where appropriate.

Suppression tactics include cultural practices such as narrow row spacings or optimized in-row plant populations, alternative tillage approaches such as no-till or strip-till systems, cover crops or mulches, or using crops with allelopathic potential in the rotation. Physical suppression tactics may include cultivation or mowing for weed control, baited or pheromone traps for certain insects, and temperature management or exclusion devices for insect and disease management. Biological controls, including mating disruption for insects, should be considered as alternatives to conventional pesticides, especially where long-term control of an especially troublesome pest species can be obtained. Chemical pesticides are important and some use will remain necessary. However, pesticides should be applied as a last resort in suppression systems.

Pest Management Practices, Northeast ^{1/}, 1998

PRACTICE	Percent of Acres Receiving Practice						Percent of Farms Utilizing Practice					
	Barley	Field Corn	Alfalfa Hay	Other Hay	Fruits & Nuts	Vegetables	Barley	Field Corn	Alfalfa Hay	Other Hay	Fruits & Nuts	Vegetables
Percent of Acres												
Prevention Practices:												
Tillage/etc. to manage pests	43	37	31	13	92	82	34	31	26	15	68	51
Remove or plow down crop residue	29	36	15	2	30	71	21	27	10	3	20	44
Clean implements after fieldwork	29	34	32	14	28	62	35	25	28	14	14	29
Water management practices	19	14	8	1	*	48	12	8	5	2	*	15
Avoidance Practices:												
Seed varieties with BT genes	--	10	*	*	--	2	--	6	*	*	--	**
Adjust planting/harvesting dates	6	12	15	1	*	23	12	5	11	1	*	16
Rotate crops to control pests	75	68	46	14	24	92	53	52	41	15	12	61
Monitoring Practices:												
Scouted for pests	33	47	39	3	93	78	23	33	32	8	77	53
Records kept to track pests	5	18	11	1	63	49	13	7	5	1	39	18
Field mapping of weed problems	6	20	10	1	*	14	15	11	7	2	*	9
Soil analysis to detect pests	15	19	11	4	23	35	13	11	10	4	3	10
Pheromones to monitor pests	--	*	*	--	19	10	--	*	*	--	7	2
Weather monitoring	6	11	5	**	25	17	6	5	5	1	22	8
Suppression Practices:												
Seed varieties herbicide resistant	*	8	*	*	--	*	*	7	*	*	--	*
Scouting used to make decisions	5	18	16	1	57	44	7	8	12	1	21	11
Biological pesticides	*	4	*	--	*	14	*	1	*	--	*	12
Beneficial organisms	--	*	*	--	*	*	--	*	*	--	*	*
Physical barriers	12	15	11	5	29	67	9	11	9	4	25	41
Adjust planting methods	2	11	1	*	*	46	3	6	1	*	*	23
Alternate pesticides	19	48	24	3	93	71	14	31	17	2	59	41

^{1/} New England, New York, New Jersey, Pennsylvania, Maryland, Delaware

*Insufficient reports to publish data

** Less than 1 percent