

NRCS Conservation Practice Standard: Code 595 ~ Pest Management

IPM Worksheet: Sweet Corn

Version:4/25/08

Soil Nutrient Management and Cultural Practices

1.	Crop rotation is practiced, as follows:		
	a. At least 50% of sweet corn acreage was not planted to corn the previous year.	10	_____
	OR		
	b. At least 25% of sweet corn acreage was not planted to corn the previous year.	5	_____
2.	Fields have been evaluated with an appropriate soil test for nutrient status and pH for the current year.	10	_____
3.	Organic matter status has been tested within three years	10	_____
4.	Fertilizer is applied in accordance with current soil test results and expected uptake of nutrients and expected crop yield, giving credit for nitrogen supplied by organic matter, compost, manure and cover crops. Expected nutrient uptake is determined from the New England Vegetable Management Guide.	15	_____
5.	Nitrogen fertilizer is applied by split application. Twenty to 40 lb/acre is applied in a band at planting, and some as a side dress, as needed.	15	_____
6.	<i>If fertilizer is applied at planting, the total of nitrogen plus potassium in the band does not exceed 80-100 lb/acre to avoid crop burning.</i>	5	_____
7.	A pre-sidedress nitrate test is taken. Nitrogen applied at side-dress conforms to test results.	10	_____
8.	This year's crop was preceded by a winter cover crop.	10	_____
9.	<i>If the cover crop was a legume or legume/grass mix, its nitrogen contribution is calculated and fertilizer for this year's crop is adjusted appropriately.</i>	10	_____
10.	<i>If compost or manure is applied, its nitrogen contribution is calculated, and fertilizer application reduced accordingly.</i>	5	_____
11.	Crop is planted into previous cover crop residue without tillage (no-till or strip till).	10	_____
12.	Corn transplants are used to avoid seed and seedling pests and to improve stand establishment	10	_____
Total practice points for Soil Nutrient Management and Cultural Practices			_____
Total possible points for Soil Nutrient Management and Cultural Practices			100

Pesticides Application and Records

Only pesticides approved and registered for sweet corn in the state are used. Records of pesticide applications are maintained, including date, field and block, target pest, crop stage pesticide name and EPA number, formulation, rate and number of acres treated. Pesticide drift is minimized. Re-entry and pre-harvest intervals are adhered to. Win-PST analysis is conducted for all pesticides considered for use on the farm.

1.	Only pesticides with a LOW or VERY LOW environmental hazard (Win-PST) are used all major pests (includes insects, diseases and weeds).	20	<u>0</u>
	OR		
	Only pesticides with a LOW or VERY LOW environmental hazard (Win-PST) are used for at least one major pest.	10	<u>0</u>
2.	Spray equipment, including hoses, nozzles and pumps, is inspected at least once per season and replaced as needed. Equipment is calibrated at the start of the season and the procedure is recorded.	10	<u> </u>
3.	Calibration is checked at least once during the season and equipment is recalibrated as needed.	5	<u> </u>
4.	A boom sprayer with double drop nozzles is used where coverage of the ear zone is desirable.	15	<u> </u>
	OR		
	A boom sprayer without drop nozzles is used	10	<u> </u>
	OR		
	If mist blower is used for coverage of the ear zone, blocks are not greater than 12 rows wide.	5	<u> </u>
5.	Records of planting date, harvest date, and cultivars in each block are maintained and organized.	5	<u> </u>
6.	Pesticide coverage of tassel and ear zone has been field tested across all rows in the block with water sensitive spray cards within the past five years, using the current spray equipment.	10	<u> </u>
	Total practice points for Pesticides Application and Records		<u> </u>
	Total possible points for Pesticides Application and Records		65

Disease Management

The two major diseases are maize dwarf mosaic virus, which is vectored by aphids, and Stewart's wilt, vectored by flea beetle. Disease incidence can be reduced by selecting well-drained fields, minimizing mechanical injury, avoiding excessive nitrogen and by controlling insect vectors.

1.	<i>If there is a field history of maize dwarf mosaic virus (MDMV), disease resistant cultivars are planted in late plantings.</i>	5	<u> </u>
2.	<i>If plants are observed with MDMV symptoms, they are submitted for confirmation.</i>	5	<u> </u>
3.	<i>If there is a history of Stewart's wilt disease on the farm, and mild winter conditions should allow high survival of flea beetles, tolerant cultivars are planted in early plantings.</i>	10	<u> </u>
4.	<i>If there is a history of Stewart's will disease on the farm and susceptible cultivars are grown, flea beetles are monitored and insecticide applications made only after numbers reach state-specified thresholds.</i>	5	<u> </u>
	Total practice points for Disease Management		<u> </u>
	Total possible points for Disease Management		0

Insect Management

Insect pests include common armyworm, corn earworm, corn flea beetle, corn leaf aphid, cutworms, European corn borer, fall armyworm, sap beetles, seed corn maggot and western corn rootworm.

1.	ECB populations are reduced by disking after harvest, planting a fall cover crop and spring plowing.	10	_____
2.	Pheromone traps are used to monitor corn earworm (CEW) flight, as specified in state sweet corn IPM publication. Moth counts are recorded at least weekly.	20	_____
3.	Application of insecticides for CEW correspond to state-specified thresholds and spray intervals, based upon pheromone trap counts.	15	_____
4.	Two pheromone traps/farm are used to monitor European corn borer (ECB) flight as specified in state sweet corn IPM publication. Moth counts are recorded weekly.	10	_____
5.	Pheromone traps are used to monitor fall armyworm (FAW) flight, as specified in state sweet corn IPM publication. Moth counts are recorded weekly.	10	_____
6.	Fields are monitored for infestation with ECB at the appropriate crop stage and when traps indicate flight activity, by examining 50-100 plants for larvae. Application of insecticides corresponds to state-specified thresholds.	15	_____
7.	Fields are monitored for infestation with FAW, at the appropriate crop stage and when traps indicate flight activity, by examining 50-100 plants for larvae. Application of insecticides corresponds to state-specified thresholds.	15	_____
8.	Occasional pests for which thresholds are not available (e.g., aphids, sap beetles, flea beetles), are treated only after scouting. Scouting results are recorded.	10	_____
9.	Floating row covers are used in early corn to reduce ECB infestations.	10	_____
10.	Insect pests are kept below economic injury levels using biologically based or other non- chemical methods, such as microbial insecticides in at least 10% of the sweet corn acreage	10	_____
11.	Beneficial insects are released for suppression of a key pest (e.g. <i>Trichogramma ostrinia</i> for ECB).	10	_____
12.	<i>If transgenic-Bt sweet corn is used, at least 25% of acreage is planted to non-transgenic corn, to reduce risk of resistance to Bt.</i>	10	_____
	<i>Total practice points for Insect Management</i>		_____
	<i>Total possible points for Insect Management</i>		135

Weed Management

Weeds include broadleaves, annual grasses and perennials.

1.	This year's fields were scouted for weeds last year at mid- to late season. Weeds present were identified, and field locations recorded. This information was used in the current weed management program.	10	_____
2.	Weed management includes one of the following (Max 20 pts): Weeds are controlled by cultivation, with no herbicide applied.	20	_____
	OR		
	Herbicide rates are reduced through banding of herbicides and cultivation.	15	_____
	OR		
	Herbicide use is reduced through delayed application of reduced rates of herbicide.	15	_____
	OR		
	Herbicide is supplemented with at least one cultivation or hand weeding.	5	_____
	OR		

Broadleaf herbicides with groundwater contamination potential (e.g. triazines) are reduced or eliminated through tank mixes with reduced risk materials (e.g. mesotrione)	5	_____
3. Weeds in field, alleys and roadways are prevented from going to seed.	10	_____
4. Fields are scouted in midseason for weeds. Location and species of uncontrolled weeds are mapped and the information is used in planning for next year.	10	_____
5. Outbreaks of new or problem weed species are controlled, using chemical or non-chemical means, to prevent spreading or seed production.	10	_____
6. <i>A trial plot is maintained to test a different weed management technique. The methods and results are recorded. bonus</i>	10	_____
<i>Total practice points for Weed Management</i>		_____
<i>Total possible points for Weed Management</i>		60

Education

1. Manager has a current copy of the <i>New England Vegetable Management Guide</i> .	5	_____
2. Manager attends one or more state/regional/national Extension vegetable conference or educational program during the current year.	5	_____
3. Manager subscribes to the UMass Extension <i>Vegetable Notes & IPM Message</i> or other in-season vegetable pest alert.	5	_____
<i>Total practice points for Education</i>		_____
<i>Total possible points for Education</i>		15

POINT SUMMARY

TOTAL POINTS		_____
TOTAL POSSIBLE POINTS		375
Percentage		%

Environmental Protection Evaluation - SWAPA

This section provides a demonstration of how an IPM program can be evaluated for impacts on specific environmental concerns. Each IPM practice has been evaluated for its impact on SWAPA issues. Where an IPM practice has been employed (points earned), a single impact is noted for each appropriate SWAPA issue and impacts are tallied for all the practices in the grower's sweet corn IPM program.

Total Number of Practices Contributing to Environmental Protection	0
Soil	0
Water	0
Air	0
Plants	0
Animal	0