

NRCS Conservation Practice Standard: Code 595 ~ Pest Management

IPM Worksheet: Raspberry

Version: 6/4/08

Preplant Practices

1.	Land is planted to cover crop(s) for one year prior to establishing raspberry planting. Land is not planted with solanaceous plants (potato, tomato, eggplant, etc.), alfalfa, wild brambles, or strawberries within two years of establishing raspberries.	5	_____
2.	Wild brambles near plantings are eliminated.	5	_____
3.	Rows and trellises are spaced and oriented to achieve optimal airflow and circulation to allow for good drying conditions for foliage and reduce the tendency for disease development.	5	_____
4.	<i>Raspberry plantings are made on raised beds where needed, such as heavy, wet soils.</i>	5	_____
5.	Irrigation is supplied to the plants. Overhead irrigation is not installed.	5	_____
6.	A water use plan that minimizes disease development, optimizes water-use efficiency and minimizes erosion and runoff is used. (In most cases, this means the use of a trickle irrigation system.)	2	_____
7.	A fertigation system is installed and used for fertilizer delivery.	2	_____
8.	Nematode sampling is conducted before establishing raspberries.	2	_____
9.	Only virus indexed plants are used. 5 pts	2	_____
10.	Raspberry plants are mulched during the first year of planting only; mulch is removed in subsequent years.	5	_____
<i>Total practice points for Preplant Practices</i>			_____
<i>Total possible points for Preplant Practices</i>			38

Soil Nutrient Management and Cultural Practices

Cultural practices are of value in management of nutrients, weeds, diseases, or insects. The goal of a sound fertility program is to supply adequate nutrients with optimum timing for maximum economical crop yield, while avoiding excesses that can degrade water quality or adversely affect crop or soil quality.

1.	Fields have been evaluated with an appropriate soil test for nutrient status and pH for the current year.	10	_____
2.	Fertilizer applications are based on soil tests and leaf tissue analysis. Excessive nitrogen application is avoided.	5	_____
3.	Pruning is conducted after harvest to remove diseased, and insect-infested wood.	5	_____
4.	Spent canes (unless diseased or insect-infested) are allowed to remain in place until midwinter as they provide important carbohydrate reserves for the following year's crop. Thus, spent canes are not pruned out until mid- to late-winter or early spring.	5	_____
5.	Prunings are flail-mowed, chopped, incorporated into the soil or removed from the field.	5	_____
<i>Total practice points for Soil Management & Cultural Practices</i>			_____
<i>Total possible points for Soil Management & Cultural Practices</i>			30

Pesticides Application and Records

Only pesticides approved and registered for raspberry 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). OR Only pesticides with a LOW or VERY LOW environmental hazard (Win-PST) are used for at least one major pest.	20	_____
2. Insecticide/fungicide sprayer is calibrated at the start of the season.	5	_____
3. Herbicide sprayer is calibrated at the start of the season.	5	_____
4. Pesticide selections are made with the goal of controlling the target pest and of preserving natural enemies, when that information is available.	5	_____
<i>Total practice points for Pesticides Application and Records</i>		_____
<i>Total possible points for Pesticides Application and Records</i>		35

Disease Management

Diseases include anthracnose, cane blight, crumbly berry, gray mold, mosaic virus complex, orange rust, phytophthora root rot, powdery mildew, raspberry leaf spot, spur blight and verticillium wilt.

1. Disease problems are accurately identified and management strategies tailored to actual diseases present in the field in current season.	10	_____
2. Detailed records are kept to document field history of diseases, weather information, and management strategies used and the results. Varietal differences are noted.	2	_____
3. <i>When planting new sites, disease resistant cultivars are chosen, if appropriate.</i>	5	_____
4. For cane disease control, no fungicides are applied after bud break.	5	_____
5. Fungicide applications made after bloom are based on wet weather conditions.	5	_____
6. <i>Where powdery mildew is a persistent problem, highly susceptible cultivars are avoided.</i>	2	_____
7. Firm, ripe fruit is picked as regularly as possible and quickly cooled to near 0°C to maintain fruit quality.	5	_____
<i>Total practice points for Disease Management</i>		_____
<i>Total possible points for Disease Management</i>		32

Insect Management

Insect pests include: blossom midge, Japanese beetle, June beetles, raspberry cane borer, raspberry crown borer, raspberry fruitworm, raspberry sawfly, rednecked cane borer, spider mites, tarnished plant bug, thrips and yellowjackets.

1. Insect problems are accurately identified and management strategies tailored to actual insect pests present in the field in current season. Scouting records are organized and maintained from year to year	10	_____
2. Detailed records (including maps, if appropriate) are kept to document field history of insect pests, management strategies used and the results. Note varietal differences.	5	_____
3. Insecticides are not sprayed when bees are active during bloom.	5	_____

4.	Tarnished plant bug nymphs are monitored weekly using flower truss counts starting at 10% bloom and continuing until harvest begins. Control measures are not taken until the action threshold of either 0.25 nymphs per truss or 10% infested trusses is exceeded.	10	_____
5.	Twospotted spider mites (TSSM) are monitored weekly until harvest (bimonthly after renovation) by systematically examining at least 50 mid-tier leaves and determining presence or absence of TSSM on those leaves.	10	_____
6.	Control measures for spider mites are not taken until: 25% of leaves sampled show presence of TSSM but no predator mites are found OR 30% of leaves sampled show presence of TSSM and some predators mites are found.	10	_____
7.	<i>Twospotted spider mites are controlled using releases of predator mites. Bonus.</i>	10	_____
8.	Pesticides used for controlling other insects and diseases are selected to avoid those which are toxic to mite predators.	5	_____
<i>Total practice points for Insect Management</i>			_____
<i>Total possible points for Insect Management</i>			55

Weed Management

Major weeds include summer annual broadleaves and grasses, winter annual broadleaves and grasses, and perennial broadleaves and grasses.

1.	A weed survey is conducted at least once per season with weed problems noted on field maps. 10 pts	10	_____
2.	Herbicide rate, selection and spot applications are based on the results of the weed survey. 10 pts	10	_____
3.	Herbicides of the same class are not applied in succeeding years in order to avoid herbicide resistance development.	10	_____
4.	Weeds in and around fields, alleys and roadways are prevented from going to seed.	10	_____
<i>Total practice points for Weed Management</i>			_____
<i>Total possible points for Weed Management</i>			40

Education

1.	Manager attends one or more state/regional/national berry management workshops or conferences during the current year.	5	_____
2.	Manager has a current copy of Northeast Small Fruit Pest Management Guide.	5	_____
3.	Manager has current membership in New England Vegetable and Berry Growers Association.	5	_____
<i>Total practice points for Education</i>			_____
<i>Total possible points for Education</i>			15

POINT SUMMARY

TOTAL POINTS	_____
TOTAL POSSIBLE POINTS	245
Percentage	%