

NRCS Conservation Practice Standard: Code 595 ~ Pest Management

IPM Worksheet: Wine Grape

Version: 6/9/2008

Preplant Practices and Considerations

This section can be eliminated for established vineyards or blocks for which the history is not known.

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| 1. | Suitability of the site for grape production is thoroughly evaluated prior to establishing grape planting. Remedial steps taken as needed, such as tiling, liming, removing air drainage barriers, etc. | 10 | _____ |
| 2. | Land is planted to a plowed down cover crop(s) for one year prior to establishment. | 5 | _____ |
| 3. | Nematode sampling is conducted before establishing grapes. 5 pts | 5 | _____ |
| 4. | Certified disease-free, virus indexed plants and rootstocks are used. | 5 | _____ |
| 5. | <i>Disease resistant cultivars are selected, when possible and appropriate.</i> | 2 | _____ |
| 6. | If irrigation is supplied to the plants, 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.) | 5 | _____ |
| <i>Total practice points for Preplant Considerations</i> | | | _____ |
| <i>Total possible points for Preplant Considerations</i> | | | 30 |

Soil Nutrient Management and Cultural Practices

Cultural practices are of value in management of nutrients, weeds, diseases, or insects. The goals of a sound fertility program are 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.

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| 1. | A petiole tissue analysis is performed in the current year. | 5 | _____ |
| 2. | A soil test is conducted for pH and nutrients. | 5 | _____ |
| 3. | Fertilizer applications are based on soil tests and leaf tissue (petiole) analysis. | 5 | _____ |
| 4. | Pruning is conducted in the dormant season to reestablish the structure of the vine and to remove diseased, and insect-infested wood. | 5 | _____ |
| 5. | Prunings are flail-mowed, chopped, incorporated into the soil or removed from the field (to reduce the amount of incipient disease inoculum available for infections in the following year). | 5 | _____ |
| 6. | A green cover is maintained in row middles either as a perennial cover or as an annually reseeded cover | 5 | _____ |
| 7. | <i>Where clean cultivation of the row middles is practiced, a fall/winter cover crop is planted to reduce erosion and add organic matter to the soil.</i> | 5 | _____ |
| 8. | Subsoiling is practiced every 3-5 years to break up hard pans and improve soil drainage. | 5 | _____ |
| <i>Total practice points for Soil Management & Cultural Practices</i> | | | _____ |
| <i>Total possible points for Soil Management & Cultural Practices</i> | | | 40 |

Pesticides Application and Records

Only pesticides approved and registered for wine grape 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	
OR		
Only pesticides with a LOW or VERY LOW environmental hazard (Win-PST) are used for at least one major pest.	10	
2. All insecticide, fungicide and herbicide application equipment is calibrated at the start of the season and the procedure is recorded and dated.	15	
3. All pesticide application equipment calibration is checked at least once during the season and recalibrated as needed (procedure recorded and dated).	5	
4. Coverage of leaf surfaces by currently used equipment is tested using water-sensitive spray cards every 5 years or when new equipment is used.	5	
5. <i>Pesticide selections are made with the goal of controlling the target pest AND of preserving natural enemies, when that information is available.</i>	5	
6. <i>Application equipment which reduces the amount of pesticide reaching non-targetsites is used. Bonus.</i>	5	
<i>Total practice points for Pesticides Application and Records</i>		
<i>Total possible points for Pesticides Application and Records</i>	50	

Disease Management

Diseases include angular leaf scorch, black rot, botrytis bunch rot, crown gall, downy mildew, eutypa dieback, phomopsis cane and leaf spot and powdery mildew.

1. Disease problems are accurately identified and management strategies tailored to actual diseases present in the field in current season.	10	
2. Detailed records (including maps, if appropriate) are kept to document field history of diseases, weather information, and management strategies used and their results. Varietal differences are noted.	2	
3. Rows and trellises are spaced and oriented to achieve optimal air-flow and circulation to allow for good drying conditions for foliage and reduce the tendency for disease development.	5	
4. Weather monitoring is conducted to determine temperature, precipitation and leaf wetness using at least a min/max thermometer and rain gauge with data recorded daily.	10	
5. Disease management decisions are made according to indications from weather monitoring that infection periods have taken place at a time when disease inoculum is known to be present in the field and susceptible plant tissue is also present in the field.	10	
6. <i>Where Eutypa dieback is present, pruning wounds on 2 year or older wood are protected by an appropriate fungicide.</i>	2	
7. <i>Where crown gall is present, the disease is controlled by biological control (i.e. Agrobacterium radiobacter) and minimizing freeze injury. Bonus practice</i>	5	
8. <i>Where black rot is present, mummified fruit is removed. Bonus.</i>	5	

Total practice points for Disease Management

Insect Management

Insect pests include climbing cutworm, flea beetle, grape berry moth, grape cane borer, grape cane gallmaker, grape cane girdler, grape leafhopper, grape rootworm, Japanese beetle, potato leafhopper and rose chafer.

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| 1. | Insect problems are accurately identified and management strategies tailored to insect pests actually present in the field in the current season. | 10 | _____ |
| 2. | Detailed records (including maps, if appropriate) are kept to document field history of insect pests, management strategies used and their results. Varietal differences are noted. | 2 | _____ |
| 3. | Insecticides are not sprayed when bees are active (during bloom). | 5 | _____ |
| 4. | New York State Grape Berry Moth Risk Assessment protocol is completed. | 5 | _____ |
| 5. | Pheromone mating disruption (e.g. Isomate-GBM® ties) is used to suppress grape berry moth damage. | 5 | _____ |
| 6. | Pheromone traps are used to determine grape berry moth population levels in the vineyard. | 5 | _____ |
| 7. | <i>If treatment for grape berry moth is necessary, Bacillus thuringiensis var. Kurstaki is applied. Bonus.</i> | 5 | _____ |
| 8. | Systematic scouting is conducted for major insect pests such as grape flea beetle, leaf hopper, and Japanese beetle. | 10 | _____ |
| 9. | Twospotted spider mites (TSSM) and European red mite (ERM) are monitored weekly until harvest (twice a month after renovation) by systematically examining at least 50 mid-tier leaves and determining presence or absence of TSSM on those leaves. Control measures are not taken until:25% of leaves sampled show presence of TSSM and/or ERM but no predator mites are found,OR 30% of leaves sampled show presence of TSSM and/or ERM and some predators mites are found. | 5 | _____ |
| 10. | <i>Twospotted spider mites and/or European red mite are controlled using releases of predator mites. Bonus practice</i> | 5 | _____ |
| 11. | Pesticides used for controlling other insects and diseases are selected to avoid those which are toxic to mite predators. | 5 | _____ |

Total practice points for Insect Management _____

Total possible points for Insect Management _____

52

Weed Management

Weeds include summer and winter annual grasses and broadleaves and perennial grasses and broadleaves.

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| 1. | A weed survey is conducted at least once per season with weed problems noted on field maps. | 5 | _____ |
| 2. | Herbicide rate, selection and spot applications are based on the results of the weed survey. | 5 | _____ |

3.	Herbicides of the same class are not applied in succeeding years in order to avoid herbicide resistance development.	5	_____
4.	Herbicides are banded only in the crop row. A seeded grass cover is used in the row middle.	5	_____
5.	Weed growth around the field border is controlled (e.g. by cultivation or mowing) to reduce weed seed movement into the field, improve air circulation and eliminate refuge for insect pests.	5	_____
<i>Total practice points for Weed Management</i>			_____
<i>Total possible points for Weed Management</i>			25

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 (subtract 32 points if PREPLANT does not apply)	249
Percentage	%