

IPM Worksheet: Cranberry

Version: 2/12/09

Soil Nutrient Management and Cultural Practices

- | | | | |
|-----|--|----|-------|
| 1. | Bog and ditch areas are properly managed to maximize drainage. All areas of the bog are capable of being flooded for proper winter protection. | 20 | _____ |
| 2. | Leaf trash is removed yearly from the bog by flooding. | 10 | _____ |
| 3. | Trash from border areas is removed to prevent spread of plant disease. | 10 | _____ |
| 4. | Bog is sanded (or pruned) at regular intervals (3-5 years) as weather allows. | 10 | _____ |
| 5. | Bog is periodically held under a late water flood as an alternative strategy to reduce fruit rot or infestations of mites, Gypsy moths, false armyworm or cranberry fruitworm. | 10 | _____ |
| 6. | Flumes are maintained to maximize tightness and minimize leakage. | 10 | _____ |
| 7. | Bog has been managed to reduce overgrowth and to promote air circulation; canopy is not overly dense and runners are minimal. | 10 | _____ |
| 8. | Leaf tissue analysis, including nitrogen, is performed at least every four years. | 5 | _____ |
| 9. | Fertilizers are applied utilizing the previous year's leaf tissue analysis as well as other appropriate crop and weather related factors. | 5 | _____ |
| 10. | Records of fertilizer applications are kept. Abnormalities and response applications are noted as needed. | 10 | _____ |
| 11. | Fertilizers are applied in a program using approved materials in accordance to their respective uptake and mobility properties. | 10 | _____ |
| 12. | Phosphorus is applied not to exceed 20 lb/A per year | 10 | _____ |
| 13. | Irrigation is based on soil moisture monitoring with a water level float, tensiometer, or moisture sensor. | 10 | _____ |

Total practice points for Soil and Nutrient Management and Cultural Practices

Total possible points for Soil and Nutrient Management and Cultural Practices

130

Pesticide Application and Records

Only pesticides approved and registered in the state are used. Sprinkler systems must meet federal chemigation standards. Records of pesticide applications including date, field identification, targeted pest, pesticide name, formulation, rate and number of acres treated are maintained. Where bogs intersect rivers or where there is no water holding capacity, diazinon, chlorpyrifos (LORSBAN™), indoxacarb (AVAUNT™), thiamethoxam (ACTARA™) and chlorothalonil (BRAVO™, ECHO™, etc.) are not used in the bog. Pesticide drift is minimized. Re-entry and pre-harvest intervals are observed.

1. On cranberry farms where multiple management units exist, records of monitoring data and pesticide applications are kept separately for individual bogs or management units.	10	_____
2. Maps (DEP or Mass GIS) are checked yearly to determine if any part of the bogs are in groundwater protection areas (Zone II) and if so, only allowed compounds are used in these areas, or proper exemptions are approved.	10	_____
3. Records of dates of water holding within the farm system for winter flood, harvest flood, and after pesticide applications are maintained.	5	_____
4. Chemigation system gives thorough coverage of bog.	10	_____
5. A dye test is run annually to establish rinse and washout times.	10	_____
6. Spraying of sensitive areas is prevented by use of half-heads or spray guards where necessary.	10	_____
7. Chemigation system includes gate valves to allow for partial treatment of system.	10	_____
8. Chemigation system is operating at its optimal Coefficient of Uniformity.	10	_____
9. Worker protection training has been given to all workers entering bog areas.	5	_____
10. Pesticide applications are posted in an appropriate location.	10	_____

Total practice points for Pesticides Application and Records

Total possible points for Pesticides Application and Records

90

Disease Management

Diseases include numerous species of field and storage fruit rots, upright dieback, phytophthora root rot and fairy ring.

1. Cultural strategies are utilized for disease control where possible, e.g., prunings, sanding, trash flow, etc.	10	_____
2. Crop stages are recorded at least weekly from scattered bloom onward	5	_____
3. Percent bloom counts are used to time fungicide applications	10	_____
4. Fungicide applications are made according to Extension recommendations.	5	_____
5. When a disease is suspected and cannot be diagnosed from previous experience, vine samples are collected and brought to an appropriate laboratory for diagnosis.	5	_____
6. To minimize the available infection period for fruit rot fungi, irrigation is routinely scheduled in the early morning to limit the period of leaf wetness.	10	_____
7. Good drainage is maintained to avoid Phytophthora root rot.	10	_____

Total practice points for Disease Management

Total possible points for Disease Management

55

Insect Management

Insect monitoring conforms to those practices described by the state IPM recommendations. Records of all monitoring information collected are maintained. Major insect pests are cranberry fruitworm, Sparganothis fruitworm, cranberry weevil and blackheaded fireworm.

1. Sweep samples are taken weekly from early May through scattered bloom to monitor for presence and abundance of insect pests, as appropriate for any individual management unit.	25	_____
--	----	-------

2.	Insecticide applications are applied only when supported by appropriate monitoring and when action thresholds are exceeded.	25	_____
3.	<i>Where the blackheaded fireworm is a frequent pest, treatments are timed to sweep net captures and visual inspection in spring and by pheromone trap captures in summer.</i>	10	_____
4.	<i>Where the Sparganothis fruitworm is a frequent pest, treatments are timed to sweep net captures and visual inspections in spring and by pheromone trap captures in summer.</i>	10	_____
5.	Populations of susceptible lepidopteran pests that exceed recommended action thresholds are managed with application B.t. products or insect growth regulators, such as Intrepid or Confirm.	20	_____
6.	Cranberry fruitworm management is based upon the phenology of the cranberry plant. Fruit are inspected at regular recommended intervals. Subsequent treatment is made when the number of unhatched viable eggs exceeds the action threshold.	20	_____
7.	No insecticides are applied for cranberry tipworm.	10	_____
	<i>Total practice points for Insect Management</i>		_____
	<i>Total possible points for Insect Management</i>	100	_____

Weed Management

The most troublesome weeds in cranberry are dodder, bristly and prickly dewberry, glaucous greenbriar, wild bean and poison ivy.

1.	A weed survey map is maintained in recordkeeping files.	10	_____
2.	Weed management, including herbicide selection and rates, is determined using the information contained in the weed survey.	10	_____
3.	Non-chemical weed management techniques, such as hand-pulling, clipping, or flooding are utilized.	5	_____
4.	Where appropriate, spot treatment of weed area is used instead of broadcast treatment of bogs.	10	_____
5.	A mowing program is followed to reduce weed seed populations on ditch banks.	10	_____
6.	<i>Where dodder is a frequent pest, management decisions are made based on dodder seedling emergence and past experience.</i>	10	_____
7.	<i>If dodder is a frequent pest and fruit is harvested in water, booms are cleaned and rinsed between harvested units to minimize seed transport.</i>	10	_____
8.	The UMass Extension weed priority system is utilized to assist in the formulation of a weed management program.	5	_____
	<i>Total practice points for Weed Management</i>		_____
	<i>Total possible points for Weed Management</i>	50	_____

Education

1. Manager attends one or more UMass Extension Cranberry Station meeting, training, or workshop during the year.	10	_____
2. Manager subscribes to the UMass Extension Cranberry Station Newsletter, and renews yearly.	10	_____
3. Manager has a copy of the UMass Extension Cranberry Station Best Management Practices Guide and reviews relevant practices yearly.	10	_____
4. Manager uses current UMass Cranberry Station Chart Book to make management decisions.	10	_____
<i>Total practice points for Education</i>		_____
<i>Total possible points for Education</i>		40

POINT SUMMARY

TOTAL POINTS	_____
TOTAL POSSIBLE POINTS	465
Percentage	_____ %