

Pest Management

IPM for Apple and Peach Production

Virginia Conservation Practice Job Sheet

595



Definition of Practice

Managing pests and the environmental impacts of pest management activities using reduced-risk pesticides or reduced risk pesticides and mating disruption

Purpose

This practice is applied as part of a conservation system to mitigate negative impacts of pest management on soil resources, water resources, air resources, plant resources, animal resources, and/or humans and to protect and enhance quantity and quality of agricultural outputs.

Conditions where Practice Applies

This practice is applicable on land where apples and peaches are grown and where insect pests will be managed using environmentally friendly methods including reduced risk insecticides and mating disruption. The use of mating disruption will reduce the number of insecticide applications.

General Criteria and Specifications

NRCS shall not develop pesticide recommendations or change label instructions or recommended specifications for pesticide application. Virginia Cooperative Extension Service will provide the technical expertise for implementation and verification of the use of the Basic and Advanced IPM. The pest management component of a conservation plan shall be developed and implemented in compliance with all applicable Federal, Tribal, State, and/or local regulations. Cooperator agrees to attend a training session developed and delivered by the Virginia Cooperative Extension for implementing the specifications contained within this job sheet.

Basic IPM Specifications

Pest populations shall be documented through scouting records and moth captures in pheromone traps.

Trapping shall be initiated in advance of first flight of each species. Use at least 2 traps per insect species for every 10 acre block. Use 1 additional trap per insect species per additional 10 acres. Record weekly pheromone trap counts for:

- Apple – codling moth, oriental fruit moth, tufted apple budmoth, or other leaf rollers
- Peach – oriental fruit moth, lesser peachtree borer, peachtree borer

Management decisions for oriental fruit moth, codling moth and tufted apple budmoth shall be based on information from pheromone traps and degree day based egg hatch models.

Use at least four complete applications (or eight alternate row middle applications) of two or more reduced risk pesticides from at least two different resistance groups (Tables 1 and 2), documented by spray records.

Advanced IPM Specifications

Pest populations shall be documented through scouting records and moth captures in pheromone traps.

Trapping shall be initiated in advance of first flight of each species. Use at least 2 traps per insect species for every 10 acre block. Use 1 additional trap per insect species per additional 10 acres. Record weekly pheromone trap counts for:

- Apple – codling moth, oriental fruit moth, tufted apple budmoth, or other leaf rollers
- Peach – oriental fruit moth, lesser peachtree borer, peachtree borer

Management decisions for oriental fruit moth, codling moth and tufted apple budmoth shall be based on information from pheromone traps and degree day based egg hatch models.

Use at least two complete applications (or four alternate row middle applications) of two or more reduced risk pesticides from at least two different resistance groups (Tables 1 and 2), documented by spray records.

Use mating disruption to manage one or more documented insect pests (Table 3).

Operation and Maintenance

The producer/client is responsible for the operation and maintenance of the IPM plan.

Records of plan implementation will be maintained for a period of five years or longer than five years if required by other federal, state, or local ordinances, programs, or contract requirements and will include:

- Insecticide application records
- Scouting and pheromone trapping records
- Degree-day records for codling moth, oriental fruit moth, and where applicable, tufted apple budmoth

Replace pheromone trap liners as required.

Replace pheromone lures according to manufacturer's recommendation.

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Specifications

Site-specific requirements are listed on this specification sheet. This job sheet is provided as a component of a resource conservation plan. Plan maps, location of fields to be managed, complementary conservation practices and measures, other relevant information and additional specifications may be included. Specifications are prepared in accordance with the NRCS Field Office Technical Guide. See Conservation Practice Standard *Pest Management* (595).

Client:	Farm #:
Field(s):	Tract #:
Prepared By:	Date:

Purpose (check all that apply)	
<input type="checkbox"/> Minimize negative impacts of pest management on soil resources, water resources, air resources, plant resources, animal resources, and/or human	<input type="checkbox"/> Protect and enhance quantity and quality of agricultural outputs.

Type of IPM (check all that apply)	
<input type="checkbox"/> Basic IPM	<input type="checkbox"/> Advanced IPM

Existing Pesticide Regimen (in typical prior year)	
Insecticide	# of applications

Planned IPM Treatment			
Orchard # or Name	Pest(s) Targeted	Reduced Risk Pesticides	Mating Disruption Products (Advanced IPM only see Table 3)
		Basic IPM – minimum of 4 complete sprays Advanced IPM – minimum of 2 complete sprays & mating disruption (pesticides must be from at least 2 different resistance groups see Tables 1 & 2)	

Design Approval:

Pest management strategies planned meet the specifications attached and were developed by a professional pest management specialist or other qualified individuals in consultation with Virginia Cooperative Extension Specialist.

PEST MANAGEMENT SPECIALIST PROVIDING ASSISTANCE:

Design Planned By: _____ Date: _____

Job Title: _____

This job sheet will be reviewed and/or revised on the following schedule:

Client's Acknowledgement Statement:

Clients acknowledge that:

- a. They hold a valid Virginia Pesticide Applicator certification.
- b. They have received a copy of the pest management plan and understand the contents and requirements.
- c. It is the responsibility of the client to obtain all necessary permits and/or rights, and to comply with all ordinances and laws pertaining to the application of this practice.
- d. They agree to attend a training session on implementing these specifications with Virginia Cooperative Extension when developed.
- e. They are required to obtain annually updated copy of the Virginia Cooperative Extension Tree Fruit Bulletin for Commercial Tree Growers.
- f. They agree to record and keep annual pesticide application records for orchard blocks entered into the program and make these records available to VT Extension Specialist.
- g. They agree to their inclusion on the VT Winchester Pest Update list-serve.

Accepted by: _____ Date: _____

Virginia Cooperative Extension Review:

I, _____, confirm that the client attended a VCE IPM training pertaining to tree fruit reduced risk pesticides and mating disruption on _____ .
 (Date)

I did make a field visit to the orchard on _____ .
 (Date)

Farm _____ Tract(s) _____ Field/Block _____

I have completed a review of the client’s records and/or documentation. Both the field visit (see above) and documentation of the scouting and application records indicate the IPM practices of reduced risk pesticides and /or mating disruption have been applied on the farm(s) indicated above. (Attach additional documentation if necessary)

Reviewed by: _____ Date: _____

Title: _____

NRCS Certification:

I have completed a review of the documentation provided by the VCE and after conversation(s) with the producer I certify the reduced risk pesticides and /or mating disruption requirements of this plan have been applied according to the required specifications.

Certified by: _____ Date: _____
 District Conservationist

Table 1. Reduced-risk pesticides for use on APPLES in Virginia (source: VA Cooperative Extension)

INSECTICIDES		
<i>Resistance Group</i>	<i>Compound</i>	<i>Trade Name</i>
4	<u>Neonicotinoids</u> <ul style="list-style-type: none"> • acetamiprid • clothianidin • imidacloprid • thiacloprid • thiamethoxam 	<u>Neonicotinoids</u> <ul style="list-style-type: none"> • Assail • Clutch • Provado • Calypso • Actara
5	<u>Spinosyns</u> <ul style="list-style-type: none"> • spinosad • spinetoram 	<u>Spinosyns</u> <ul style="list-style-type: none"> • SpinTor • Delegate
6	<u>Avermectins</u> <ul style="list-style-type: none"> • emamectin benzoate 	<u>Avermectins</u> <ul style="list-style-type: none"> • Proclaim
7	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • pyriproxyfen 	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • Esteem
15	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • novaluron 	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • Rimon
16	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • buprofezin 	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • Centaur
16A	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • methoxyfenozide 	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • Intrepid
22	indoxacarb	<ul style="list-style-type: none"> • Avaunt
23	spirotetramat	<ul style="list-style-type: none"> • Movento
Other pathogens	Codling moth granulovirus	<ul style="list-style-type: none"> • Cyd-X • Carpovirusine
Unknown	kaolin clay	<ul style="list-style-type: none"> • Surround
28	chlorantraniliprole flubendiamide	<ul style="list-style-type: none"> • Altacor • Belt
MITICIDES		
<i>Resistance Group</i>	<i>Compound</i>	<i>Trade Name</i>
6	<u>Avermectins</u> <ul style="list-style-type: none"> • abamectin 	<u>Avermectins</u> <ul style="list-style-type: none"> • Agri-Mek
10	clofentazine hexythiazox etoxazole	<ul style="list-style-type: none"> • Apollo • Savey • Zeal
20	acequinocyl	<ul style="list-style-type: none"> • Kanemite
21	fenpyroximate	<ul style="list-style-type: none"> • Portal
23	spirodiclofen	<ul style="list-style-type: none"> • Envidor
25	bifenazate	<ul style="list-style-type: none"> • Acramite

Table 2. Reduced-risk pesticides for use on PEACHES in Virginia (source: VA Cooperative Extension)

INSECTICIDES		
<i>Resistance Group</i>	<i>Compound</i>	<i>Trade Name</i>
4	<u>Neonicotinoids</u> <ul style="list-style-type: none"> • acetamiprid • imidacloprid • thiacloprid 	<u>Neonicotinoids</u> <ul style="list-style-type: none"> • Assail • Provado • Actara
5	<u>Spinosyns</u> <ul style="list-style-type: none"> • spinosad • spinetoram 	<u>Spinosyns</u> <ul style="list-style-type: none"> • SpinTor • Delegate
7	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • pyriproxyfen 	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • Esteem
18A	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • methoxyfenozide 	<u>Insect Growth Regulator</u> <ul style="list-style-type: none"> • Intrepid
22	<u>Oxadiazines</u> <ul style="list-style-type: none"> • indoxacarb 	<ul style="list-style-type: none"> • Avaunt
23	spirotetramat	<ul style="list-style-type: none"> • Movento
28	chlorantraniliprole flubendiamide	<ul style="list-style-type: none"> • Altacor • Belt
MITICIDES		
<i>Resistance Group</i>	<i>Compound</i>	<i>Trade Name</i>
10	clofentezine hexythiazox	<ul style="list-style-type: none"> • Apollo • Savey
23	spirodiclofen	<ul style="list-style-type: none"> • Envidor
25	bifenazate	<ul style="list-style-type: none"> • Acramite

Table 3. Mating disruption products (source: VA Cooperative Extension)

MATING DISRUPTION			
<i>Targeted Pest</i>	<i>Crop</i>	<i>Formulation</i>	<i>Rate/Acre</i>
Oriental fruit moth	Apple and peach	Isomate M100 Checkmate OFM Checkmate OFM-SL+ CheckMate OFM-F	100 ties 100-200 dispensers 100-250 dispensers 1.3 fl oz
Codling moth	Apple	Isomate CTT Checkmate CM Checkmate CM-XL 1000	200 ties 150-200 dispensers 120-200 dispensers
Oriental fruit moth and codling moth	Apple	Isomate CM/OFM TT Checkmate Duel	200 ties 200 dispensers
Lesser peachtree borer	Peach	Isomate LPTB	100 ties
Peachtree borer	Peach	Isomate P	100 ties
Lesser peachtree borer and peachtree borer	Peach	Isomate LPTB	200-250 ties

