

# Basic Spray Guide

## Apples, Pears, and Plums of North Central Minnesota

### Potential Insects

#### Apple Maggot



Bag apples for protection.

#### Plum Curculio



Crescent shaped scars on fruitlets

#### Codling Moth

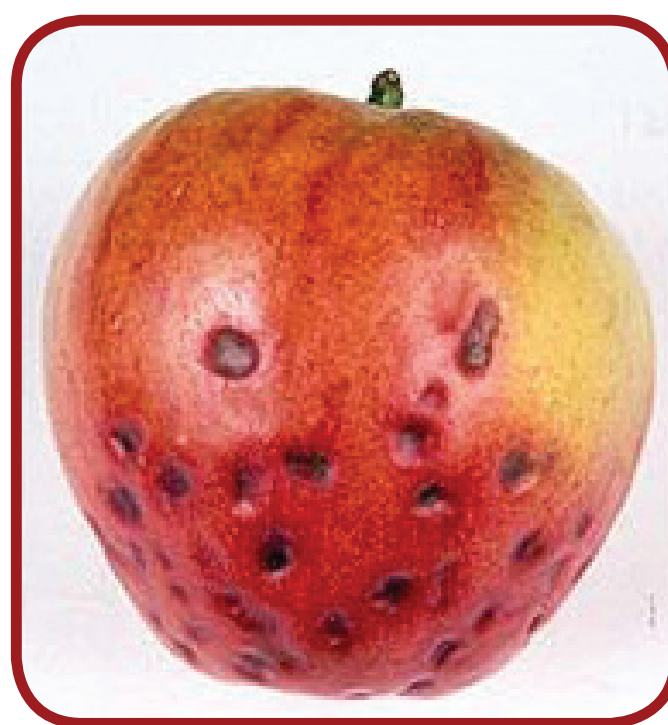


### Potential Disease

#### Cedar Apple Rust



#### Bitter Pit



Honeycrisp Apples

#### Apple Scab

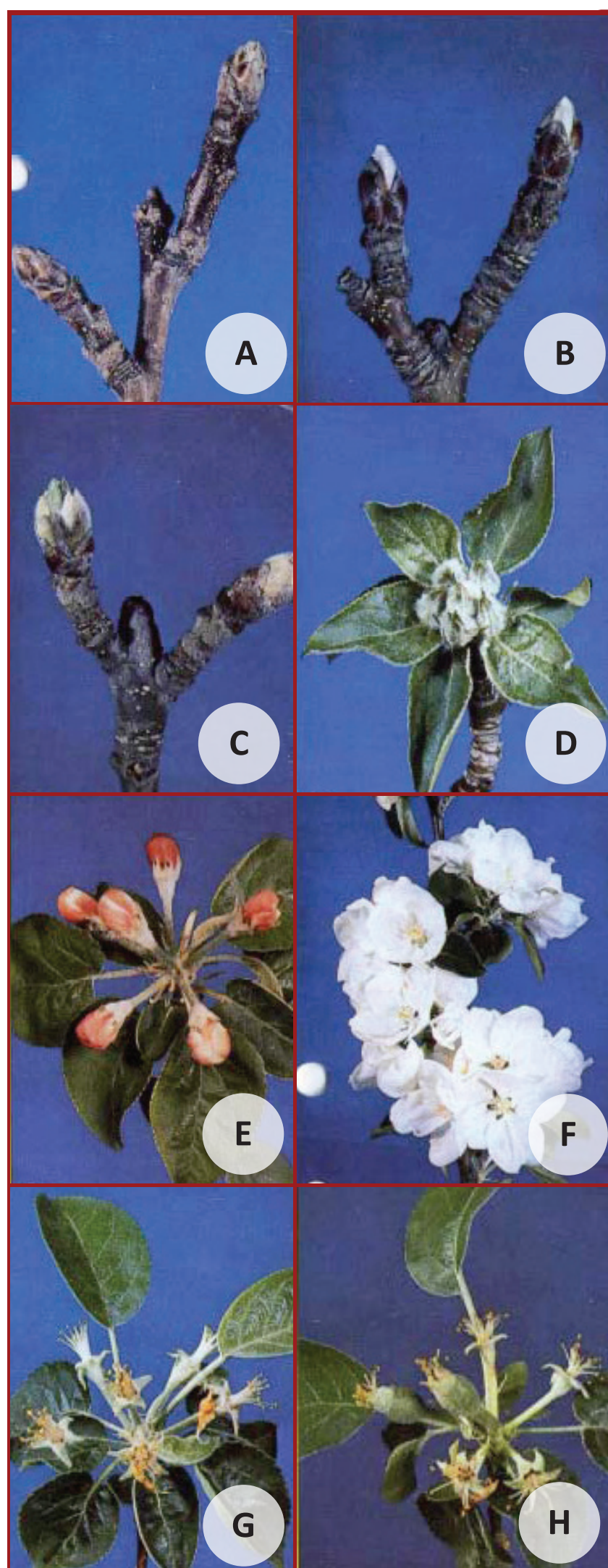


#### Powdery Mildew



### Fruit Stages

- A. Dormant
- B. Silver Tip - Mid April
- C. 1/2" Green Tip
- D. Tight Cluster
- E. Pink
- F. Bloom - May
- G. Petal Fall
- H. 1/2" Fruitlets



### Monitoring & Spraying Tips

#### Monitoring Program

(1st leaf year of planting, 2nd leaf the following year, and 3rd leaf)

- Monitor leaves for fungal conditions and document what type of fungus you had. If you get a fungus there is not a lot you can do any more in the current growing season.
- Monitor leaves for insect damage, document what insect damage you had. You can start spraying Dipel (an organic insecticide) when you notice damage. This will control the majority of insects.

#### Spraying Tips

- Always wear protective clothing and breathing equipment!
- Spray when leaves are dry, make sure leaves have a chance to dry before rain.
- Spray early in the day or late in day: never in hot sun.
- Do not spray above 75-80 degrees it will burn the leaves.
- Once fungicide or insecticide have been mixed you should spray immediately (they lose 50% of their strength in the first 8 hours).





### Basic Spray Program - Apples, Pears, and Plums

### North Central Minnesota

Date Fruit Stage	Potential Insects and Fungus	Pesticide Needed and Mixing Rates
May 1 1/2" Green Tip -Image C	Potential Fungus... Apple Scab, Cedar Apple Rust, Powdery Mildew. Insecticide to treat for Fruit worms and Leaf Rollers.	Use Captan Fungicide 1/2 cup per 5 gallons of water. Dipel Organic Insecticide: 3 tablespoons per 5 gallons of water.
May 10 Tight Cluster -Image D  Pink -Image E	Potential Fungus... Apple Scab, Cedar Apple Rust, Powdery Mildew. Insecticide to treat for Fruit worms and Leaf Rollers.	Use Captan Fungicide: 1/2 cup per 5 gallons of water. Dipel Organic Insecticide: 3 tablespoons per 5 gallons of water. 20-20-20- with micro nutrients: 2 tablespoons per 5 gallons of water.
May 20 Full Bloom -Image F	Potential Fungus... Apple Scab, Cedar Apple Rust, Powdery Mildew.	Use Captain Fungicide: 1/2 cup per 5 gallons of water.
June 1 Petal Fall -Image G	Potential Fungus... Apple Scab, Powdery Mildew. Insecticide to treat for Leaf Rollers, Plum Curculio, Tent Caterpillar and Codling Moth.	Use Captan Fungicide: 1/2 cup per 5 gallons of water. Dipel Organic Insecticide: 3 tablespoons per 5 gallon of water. 20-20-20 with micro nutrients: 2 tablespoons per 5 gallons of water.
June 10 Fruit Set -Image H	Potential Fungus... Apple Scab. Insecticide to treat for Leaf Rollers, Plum Curculio, Tent Caterpillar and Codling Moth.	Use Captan Fungicide: 1/2 cup per 5 gallons of water. Dipel Organic Insecticide: 3 tablespoons per 5 gallon of water.
June 20 Thinning Fruitlets	Potential Fungus... Apple Scab. Insecticide to treat for Leaf Rollers, Plum Curculio, Tent Caterpillar and Codling Moth.	Captan Fungicide: 1/2 cup per 5 gallons of water. Dipel Organic Insecticide: 3 tablespoons per 5 gallon of water. 20-20-20 with micro nutrients: 2 tablespoons per 5 gallons of water.
July 1 Fruit is 1" Diameter	Potential Fungus... Sooty Blotch, Fly Speck. Insecticide to treat for Leaf Rollers, Plum Curculio, Tent Caterpillar and Codling Moth. Control Bitter Pit (Honeycrisp)	Use Captan Fungicide 1/2 cup per 5 gallons of water. Dipel Organic Insecticide: 3 tablespoons per 5 gallons of water. Monterey Foli-Cal: 7.5oz per 5 gallons of water.
July 10	Potential Fungus... Sooty Blotch, Fly Speck. Insecticide to treat for Leaf Rollers, Plum Curculio, Tent Caterpillar, and Codling Moth.	Use Captan Fungicide: 1/2 cup per 5 gallons of water. Dipel Organic Insecticide: 3 tablespoons per 5 gallon of water. 20-20-20 with micro nutrients: 2 tablespoons per 5 gallons of water.
July 20	Potential Fungus... Sooty Blotch, Fly Speck. Insecticide to treat for Leaf Rollers, Plum Curculio, Tent Caterpillar, and Codling Moth. OR insecticide to treat for Apple Maggot, Leaf Rollers, Plum Curculio, and Codling Moth. Control Bitter Pit (Honeycrisp)	Use Captan Fungicide: 1/2 cup per 5 gallons of water. Dipel Organic Insecticide: 3 tablespoons per 5 gallon of water. Use Bonide 8: 2oz per gallon of water. Monterey Foli-Cal: 7.5oz per 5 gallons of water.
August 1	Potential Fungus... Sooty Blotch, Fly Speck. Insecticide to treat for Leaf Rollers, Plum Curculio, Tent Caterpillar, and Codling Moth. OR insecticide to treat for Apple Maggot, Leaf Rollers, Plum Curculio and Codling Moth. Control Bitter Pit (Honeycrisp)	Use Captan Fungicide: 1/2 cup per 5 gallons of water. Dipel Organic Insecticide: 3 tablespoons per 5 gallon of water. Use Bonide 8: 2oz per gallon of water. Monterey Foli-Cal: 7.5oz per 5 gallons of water.
August 10	Potential Fungus... Sooty Blotch, Fly Speck. Insecticide to treat for Leaf Rollers, Plum Curculio, Tent Caterpillar, and Codling Moth. OR insecticide to treat for Apple Maggot, Leaf Rollers, Plum Curculio, and Codling Moth. Control Bitter Pit (Honeycrisp)	Use Captan Fungicide: 1/2 cup per 5 gallons of water. Dipel Organic Insecticide: 3 tablespoons per 5 gallon of water. Use Bonide 8: 2oz per gallon of water. Monterey Foli-Cal: 7.5oz per 5 gallons of water.
August 20	Potential Fungus... Sooty Blotch, Fly Speck. Control Bitter Pit (Honeycrisp)	Use Captan Fungicide: 1/2 cup per 5 gallons of water. Monterey Foli-Cal: 7.5oz per 5 gallons of water.

#### Pesticide Conversion Estimates

Captan Fungicide	8 oz	10 gallons of spray
Dipel Organic Insecticide	1 lb	50 gallons of spray
Monterey Foli-Cal	32 oz	20 gallons of spray
20-20-20 with Micro Nutrients	1.5 lbs	125 gallons of spray

#### Spray Conversion Estimates

1 gallon of spray per 8 full size Dwarf trees
1 gallon of spray per 4 full size Semi Dwarf trees
1 gallon of spray per 2 full size Standard Trees