Powdery mildew is a disease of major importance on several apple varieties grown commercially in Virginia. The disease is caused by the fungus Podosphaera leucotricha. Jonathan, Rome, and Stayman have been the most seriously affected; York and Delicious have been less severely attacked. Cortland, Gravenstein, and Idared varieties are also susceptible to mildew.

**SYMPTOMS AND DISEASE CYCLE**

The powdery mildew fungus attacks twigs, leaves, blossoms and fruit. The disease appears with the opening of buds which were infected the previous season. The first symptoms are felt-like patches of fungus mycelium on the lower surface of leaves which soon become crinkled and curled. The fungus spreads rapidly and soon covers the entire leaf surface with mycelium and a powdery coating of spores. The entire growing terminal may be affected. The terminals become stunted and may be killed as a result of the disease. These diseased terminals soon provide an abundance of spores for the spread of powdery mildew to healthy twigs. Spread is favored by warm, dry weather which are unfavorable conditions for scab, rust and other common fruit diseases. Blossoms may become infected from the overwintering mycelium in the dormant buds. In this case, the floral parts are so badly deformed no fruit is produced. Fruit infection usually occurs shortly after blossoming and appears on the fruit as a net type russet. Infection may continue throughout the season, but is most

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severe during the period of active terminal growth. Diseased terminals are
the most important source of spores for the spread of mildew; therefore, they
should be removed in pruning so far as possible.

**RECOMMENDED CONTROL**

**DINOCAP (Karathane):** Use 0.5 lb. dinocap 25% WP per 100 gals. or 1 tea-
spoon per gallon of spray. Apply 300 to 400 gals. of spray per acre or 5 to
8 gals. per tree, depending on tree size, at 6-day intervals during the pre-
bloom period and at 10-day to 2-week intervals during the early post-bloom
period until new growth hardens off. Note: Dinocap - liquid concentrate 48%
L.C. 4 oz. per 100 gals. may be substituted for the 25% WP.

**CAUTION:** Dinocap may cause a sulfur-like scorch in hot, dry weather. Com-
binations with oil or liquid insecticides having a petroleum base should be
avoided. Allow 21 days from last application to harvest. The residue tolerance
for dinocap is 0.1 ppm.

**OR**

**SULFUR:** Use 1.4 lbs. wettable sulfur 95% per 100 gals. or 1.5 tablespoons
per gallon of spray. Number of gals. per acre or per tree and time of appli-
cation is the same as for dinocap.

**CAUTION:** Sulfur may cause some foliage and fruit injury when applied
under high temperature conditions. Sulfur may roughen the finish of Golden
Delicious and Stayman varieties.

**OR**

**BENOMYL (BENLATE):** Use 4 to 6 oz Benlate 50% WP per 100 gals. of spray.
Gallons per acre or tree and time of application are the same as for dinocap.
The residue tolerance for Benlate is 7 ppm. Do not graze treated areas.

**OR**

**DIKAR:** Use 2.0 lbs. Dikar 80% WP per 100 gals. or 2 tablespoons per
gallon of spray. Time of application and gallons per acre or per tree are
the same as for dinocap.

**CAUTION:** Do not graze Dikar treated areas. Do not apply within 21 days
of harvest.

**RESIDUE TOLERANCE:** Dikar = Dithane + Karathane
Dithane 7 ppm--Karathane

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Trade and brand names are used only for the purpose of information and the Virginia Cooperative Extension Service does not guarantee nor warrant
the standard of the product, nor does it imply approval of the product to the exclusion of others which may also be suitable.

**KEYS TO PROPER USE OF PESTICIDES**

1. Read the label on each pesticide container before each use. Follow instructions to the letter: heed all cautions and warnings, and note precau-
tions about residues.

2. Keep pesticides in the containers in which you bought them. Put them where children or animals cannot get to them, preferably under lock and
away from food, feed, seed, or other material that may become harmful if contaminated.

3. Dispose of empty containers in the manner specified on the label.

SEE YOUR DOCTOR IF SYMPTOMS OF ILLNESS OCCUR DURING OR AFTER USE OF PESTICIDES.