brown lesions in the crown area. These become conical areas of black rot, both in the field and in storage.

**Cultural control**
- Maintain proper water and nutrient levels during the growing season.
- Avoid wounding roots.

**Chemical control** Seed treatments.
- Captan 400 at 6 fl oz/100 lb seed plus a dye.
- Thiram 50WP dyed at 8 oz/100 lb seed (not labeled for Oregon) or 42-S Thiram at 8 fl oz/100 lb seed plus a dye. See label for reentry restrictions.

**Sugar Beet (Beta vulgaris) — Phytophthora Root Rot and Pythium Root Rot**

**Cause** The fungus-like soilborne organisms, *Phytophthora drechsleri* and *Pythium aphanidermatum*, cause root rot primarily in waterlogged soils at high temperatures. Low areas of the field are where these two diseases are most often found.

**Symptoms** A brown-black wet rot begins on the lower taproot and progresses upward.

**Cultural control**
- Maintain good soil drainage.
- Do not over-irrigate.

**Sugar Beet (Beta vulgaris) — Powdery Mildew**

By John Gallian and C. M. Ocamb

**Cause** The fungus, *Erysiphe polygoni* (*E. betae*), affects plants in the Polygonaceae. The disease has been widespread in several Western States since 1974. Fungal spores may blow in from overwintering sources. Overwintered infected seed beets may also be sources of infections. The fungus tolerates a wide range of environmental conditions.

**Symptoms** Small, discrete, white patches on both leaf surfaces. Fatches coalesce until white mycelium and spores cover the entire leaf. Leaves later become yellow, then purplish brown, and finally necrotic.

**Chemical control** Begin applying when mildew is first observed. If necessary, repeat application to maintain 10% or less leaf area diseased throughout the growing season. Sulfur dust provides superior control to liquid applications and is the preferred treatment. Research in south-central Idaho indicates it is economically feasible to apply sulfur to fields developing initial powdery mildew infections up to 3 weeks before harvest (or about September 1 in that area).

- Bicarbonates are registered to control powdery mildew. Thorough coverage is essential.
  - Kaligreen at 2.5 to 3 lb/A at 7- to 10-day intervals. Might supplement a normal program when powdery mildew is first observed. May be applied up to the day before harvest. 4-hr reentry.
  - MilStop (85% potassium bicarbonate) at 2 to 5 lb/A. 1-hr reentry.
- Demethylation-inhibiting (DMI) Fungicides (Group 3) are labeled for use. Do not make more than one (1) application before alternating to a labeled fungicide with a different mode of action.
  - Eminent 12S SL at 13 fl oz/A. Do not apply within 14 days of harvest. 12-hr reentry.
  - Inspire XT at 7 fl oz/A on 10- to 21-day intervals. Preharvest interval is 7 days. 12-hr reentry.
  - Prolin SC at 4.3 to 5.7 fl oz/A on 14- to 21-day intervals. Preharvest interval is 7 days. 48-hr reentry.


**Sugar Beet (Beta vulgaris) — Ramularia Leaf Spot**

**Cause** *Ramularia beticola*, a fungus. Most likely it is seedborne. It is believed to persist in beet debris at least 1 year. The disease is not considered an economic problem.

**Symptoms** Leaf spots, which occur on older leaves, are light brown and fairly large (4 to 7 mm). As they mature, they develop a gray to white center (sporulation of the fungus) and a dark to reddish brown margin.

**Cultural control**
- At least a 3-year rotation out of beets is helpful.

**Chemical control** Materials labeled for Cercospora leaf spot should help to control Ramularia leaf spot.

- Eminent 12S SL at 13 fl oz/A. Do not make more than one (1) application of Eminent (triazole fungicide) or other Group 3 fungicide before alternating to a labeled fungicide with a different mode of action. Do not apply within 14 days of harvest. 12-hr reentry.