

Muskmelon and Watermelon

Cultivars

Contact Manitoba Agriculture and Food's Vegetable Specialist for variety information.

Seed Treatments

Treat seed with a fungicide prior to seeding to control damping off and seed decay.

Climate and Soil Requirements

Melons are frost susceptible and thrive in warm weather. Delay transplanting until late May or early June when soil temperatures are 15°C or higher.

Melons grow best on sandy – silty loams but can be grown successfully on a wide range of well drained soil types.

Planting and Spacing

Transplants are required for successful production in Manitoba. Approximately 1 lb of seed is required to produce transplants for one acre. Direct seed into 128 cell trays and do not allow plants to elongate in the greenhouse. Start muskmelon three to five weeks and watermelon two to four weeks prior to field transplanting. Take care not to damage root mass when removing from trays.

Spacing

Muskmelon: Between Rows – 5-6 ft (1.5 - 1.8 m)
In-row - 2-3 ft (60- 90 cm)

Watermelon: Between Rows – 6-10 ft (1.8-3 m)
In-row - 3-4 ft (90-120 cm)

Fertility

Refer to Tables 1 through 9 for this crop. For general recommendations in the absence of a soil test, refer to Table 10 in the fertility section.

Irrigation

Good moisture is necessary throughout the growing season. Irrigate to supply 1 inch (2.5 cm) water after seeding or transplanting. Good moisture reserves are also necessary at time of flowering and fruit development. Do not let soil dry out during this period. Irrigate in the late afternoon to avoid bees working the field.

Pollination

All vine crops depend on insects to transfer pollen from male to female blossoms. Each female blossom must be visited 15 to 20 times in order for adequate pollination to occur. Poorly pollinated fruit will usually exhibit unacceptable shape and poor size.

In small plantings, there may be enough native pollinating insects to perform this function. In large plantings, the grower is advised to introduce one colony of honeybees for every 2 to 3 acres. Plan to have the hives in the field at first bloom.

Insecticides will poison bees. Spray only in the evening or at night, after bees have finished foraging for the day. If possible, remove hives from the field prior to spraying.

Pest Management

Diseases

Alternaria Leaf Spot

This disease is often prevalent in muskmelons. The oldest leaves are infected first. Sprays applied to control scab and anthracnose are somewhat effective at controlling Alternaria.

Angular Leaf Spot

It is not possible to completely control this bacterial disease with chemicals. A reduction in disease severity may be achieved by spraying with a copper compound. Repeat at weekly intervals in wet weather. Do not work in crop when foliage is wet.

Anthracnose

Use resistant varieties where possible and follow a two-year rotation away from vine crops. Begin fungicide applications at the first sign of disease or if weather conditions are favourable (cool and wet).

Damping-Off

Seed treated with products from the dithiocarbamate group will help prevent damping-off, seedling blight and seed decay. Use sterile soil or soilless mix for transplant production.

Bacterial Wilt

This disease overwinters in the stomachs of adult cucumber beetles. Plants become susceptible as soon as the beetles emerge in the spring. Bacteria

move via the vascular system of infected plants. Once inside the plant, there is no effective treatment. Beetle control is essential for effective Bacterial Wilt control.

Cultivars vary in their susceptibility to bacterial wilt.

Fusarium Wilt (Muskmelon)

Sterilize soil or use soilless media for production of melon transplants. Grow cultivars resistant to fusarium wilt in infested soils (consult seed catalogues). Avoid movement of infested soil and debris to new production areas.

Gummy Stem Blight

The fungus overwinters on diseased crop debris, and may be seed born. 20°C is optimum for infection of muskmelon, 24°-25°C is optimum for Watermelon. Moisture periods of longer than 1 hour, are required for diseases. Seed should be treated, a two-year rotation cycle is necessary. Free moisture should be managed (if possible), time irrigation to avoid creating long periods of moisture on the leaves.

Scab

This disease is more prevalent during cool weather conditions (temperatures near or below 21°C). The fungus requires the occurrence of frequent rains or heavy dews for infection. Fungicide sprays are not always completely effective at controlling scab. Plant cultivars resistant to scab, if they are available. Follow a two-year rotation away from all vine crops.

Powdery Mildew

This disease generally appears in late July to early August. In all vine crops, severe infections can reduce yield. The sugar content of melons may be reduced in plants infected with powdery mildew.

As soon as mildew appears, apply one of the recommended fungicides at 7 to 14 day intervals. Use new powdery mildew-resistant varieties on the market.

Insects

Striped Cucumber Beetle, Spotted Cucumber Beetle

Beetles usually arrive in cucurbit fields as the crop begins to emerge. They can cause significant damage to young plants. Beetles must be controlled to prevent the transmission of bacterial wilt.

Spray when beetles first appear in the field. A general guideline is to treat when beetles exceed 0.5 to 1 per plant. A follow-up spray may be necessary, as beetle emergence is often staggered.

Cucumber beetles tend to congregate in certain areas of the field, making them an excellent candidate for spot spraying.

Aphids

Begin monitoring for aphids in late June, especially during hot, dry weather conditions. Aphids are vectors of virus diseases. Focus monitoring efforts on runners. If monitoring indicates a need, spray with one of the recommended pesticides.

Leafhoppers

Feeding damage plugs the vascular system, causing hopper burn. Hopper burn is frequently mistaken for drought stress. If hoppers are found feeding in the crop, refer to the *Guide to Vegetable Crop Protection 2003* for control options.

Squash Bug

The squash bug is primarily a pest of pumpkin, squash and zucchini but can be found on any cucurbit crop. The squash bug overwinters as an

adult in sheltered areas and emerges during mid-summer. Crop rotation and field sanitation are the best methods for managing this pest.

Two-Spotted Spider Mite

Mites move into the crop from grassy field margins. A well-timed border spray will often provide efficient control. This pest is often more prevalent in hot, dry summers. If monitoring indicates a need, spray as recommended.

Weeds

Competition from weeds can reduce yield and also make harvesting more difficult. For recommended herbicides refer to the *Guide to Vegetable Crop Protection 2003*.

Harvest and Storage

If marketing through the wholesale-retail system, fruit should be picked a few days before fully ripe. Rapid removal of field heat improves shelf life and marketing should be done immediately after harvest. Short-term storage can be done at temperatures near 10°C, and 90% relative humidity.