Parsnip

Cultivars
Contact Manitoba Agriculture's Vegetable Specialist for variety information.

Climate and Soil Requirements
Parsnips are a cool season crop that produce well under Manitoba's climatic conditions.

Parsnips require deep, loose, fertile soils, preferably a well drained, warm, sandy loam.

In Manitoba, parsnips are produced successfully on well drained clay loams with pH of 7.5.

Seeding and Spacing
Parsnips are a long-season crop (100- 130 days to maturity), so the seed must be sown as early as possible. Always use seed produced the preceeding year. Parsnip seed is slow to germinate, especially in dry, cool soils. Poor stands occur if the soil surface becomes baked or crusted before the seedlings emerge.

Rate: 2.7-4.9 lb/ac

Depth: <1 inch *(*6-20 mm)

Row Spacing: 18-30 inches (45-75 cm) depending on machinery used in cultivation

Plant Stand: 6-10 per foot (20-33 plants/m)

Fertility
If required, contact your Ag Supply agronomist, Manitoba Agriculture agronomist or fee for service agronomist/consultant for fertilizer recommendations.

Irrigation
The parsnip is not tolerant to drought or high temperatures. It needs steady and relatively large amounts of water for optimum growth.

On light textured soils approximately 1 inch (25 mm) of water (irrigation or precipitation) is required weekly. On heavier textured soils, 1.6-2.4 inches (40-60 mm) of water every 10-14 days for optimum yields and quality.

If high temperature conditions exist when seedlings are just emerging, irrigation will prevent serious damage (heat canker) to the young plants.

Irrigation can be used very effectively to overcome heavy soil crusting which can reduce the plant stand.

Pest Management

Diseases

Watery Soft Rot (*Sclerotinia)*
Crop Rotation **–** Avoid beans, lettuce, carrots, cole crops, canola, peas, lentils, cucumber and celery as all are susceptible to Sclerotinia. Rotate with crops such as onions, beets, cereals or corn.

Harvest and Storage **–** Cull diseased and broken roots during harvest and bin piling. Follow a good storage sanitation program which involves cleaning, disinfecting and rinsing.

Cleaning includes removing debris, such as soil, wood, stones and metal, by brushing, vacuuming, scraping and high-pressure washing. Cleaning compounds such as soaps can be used to lower the surface tension of water so that soils may be loosened and flushed away.

Cleaning must be done before disinfecting. Dirt and residue will prevent the disinfectant from coming into contact with all surfaces. Many common disinfectants are deactivated by organic matter.

Allow storage facility to dry and ventilate before storing crop.

Itersonilia Canker and Leaf Spot
High ridging to cover the shoulder of the roots is helpful. Reducing the ability of the fungus to survive until the next parsnip crop is the key to managing this disease. Deep plowing, removing and destroying diseased parsnip roots at harvest, eradi-

cating weeds that can carry the fungus, and employing long crop rotations on well drained soils, should reduce the impact of this disease.

Phoma Canker and Leaf Spot

If cultivars with extensive shoulders are grown, phoma canker can be managed by starting to harvest before maximum root and shoulder development. Rotate with other crops on a minimum one year rotation. Removal of crop refuse will help manage the disease.

Insects

Parsnip production in Manitoba has virtually no insect pests which cause damage and loss.

Weeds

Competition from weeds can reduce yield and also make harvesting more difficult. If required, contact your Ag Supply agronomist, Manitoba Agriculture agronomist or fee for services agronomist/consultant for weed control recommendations.

Harvest and Storage

Store as close to 0°C as possible with a relative humidity of 95-100%.

Caution: Some individuals may be sensitive to the natural chemicals found in parsnip foliage. The level of these substances increases if parsnips are diseased. Using rubber gloves when handling parsnip foliage and leg protection when walking in the field will prevent the development of skin rashes.

Proven Disinfectants	
Sanitizing Compound	**Mixing Rate With Water**
Hypochlorites (bleaches[1, 2] 5.256.0% active)	1 part to 9 parts water
Quaternary ammonium (10% active) e.g. DCD	1.0 mL per 300 mL water
Phenolic compounds[3] (sold as hospital disinfectants)	See label. Use rate listed for heavy spills
37% formalin solution[2]	3 L per 100 L water
[1] Corrosive to metal surfaces [2] Wear a suitable respirator. Ventilate following treatment. Fumes are toxic to plants. [3] Provides residual action.	