
SECTION 17

**CROPS OF CARROT, MANGEL, SUGAR BEET,
AND RUTABAGA (TURNIP)**

Section 1, *Regulations for All Pedigreed Seed Crops*, together with the following, constitute the production regulations.

17.1 CLASSES, GENERATIONS AND REQUIREMENTS

- 17.1.1 Breeder: under the control of the Breeder.
- 17.1.2 Foundation: the progeny of Breeder. One generation.
- 17.1.3 Registered: the progeny of Breeder or Foundation. One generation.
- 17.1.4 Certified: the progeny of Breeder, Foundation or Registered. One generation.

17.2 LAND REQUIREMENTS

- 17.2.1 Foundation, Registered and Certified crops must be established on land which did not produce a crop the previous year which would naturally cross pollinate with the seed crop.

17.3 CROP INSPECTION

The basic standards for all crops are set out in Section 1.7. In addition, the following apply to crops in this section:

- 17.3.1 It is the grower's responsibility to ensure that crops are inspected by an authorized inspector prior to swathing or harvesting.
- 17.3.2 A crop that is cut, swathed or harvested prior to crop inspection is not eligible for pedigree.
- 17.3.3 The crop must be inspected at a stage of growth when varietal purity is best determined. Crops not inspected at the proper stage for best determining varietal purity may be cause for declining pedigreed status.
- 17.3.4 First inspection shall be made at the time the roots are mature and ready to be taken up for storage.
- 17.3.5 Second inspection shall be made at blossom time in the second year.

17.4 CROP STANDARDS

17.4.1 Isolation

- a) A crop for pedigreed status must be isolated from crops or plants that are a source of contamination through cross pollination by the distances in Table 17.4.1.
- b) Isolation distances must be provided before flowering commences and prior to crop inspection.

Table 17.4.1: Minimum Isolation Distances Required

Crop Kind	Isolation Distances Required
Carrot	400 meters (1312 feet)
Mangel	
Rutabaga (Turnip)	400 meters (1312 feet)
Sugar Beet	

17.4.2 Sources of Contamination by Cross Pollination

- a) Bolters among roots being produced for field or vegetable purposes within the specified isolation distance will cross with a seed crop. A careful examination on two or three occasions during the blooming period should be made and all bolters removed.
- b) Wild Carrot, wild forms of the *Cruciferae* family, and Wild Radish will cross with cultivated forms.
- c) Mangel will cross with other Mangel varieties, Sugar Beet and the Garden Beet.
- d) Rutabaga (Turnip) will cross with other Swede varieties, Swede-like Rape, Swede-like Kale, Turnip-like Rape, Bird Seed Rape, Chinese Cabbage, Tori Rape and Chinese or Indian Mustard.
- e) Carrot will cross with other varieties of Carrot including the garden varieties and the Wild Carrot.

17.4.3 Weeds

- a) All crops for pedigree should be free of Prohibited and Primary noxious weeds.
- b) Very weedy crops may be declined pedigreed status.

17.4.4 Type and Purity

Purity shall consist of morphological similarity in the following respects:

- a) Colour: red, rose, green, bronze, purple, white and the various shades of each of these individual colours. Yellow shall include the various shades of orange, yellow, and combinations of the two.
- b) Shape: unless definitely stated, type shall be determined by the ratio of length to depth in ground, the standards for which are herein stated for each general type. Where variety differentiations within the types outlined are based on definitely described peculiarities or shape, the variety described shall conform to the described shape to the extent designated by the purity requirements.

Table 17.4.4: Range of Types and Limits for Shape

Mangel Type	Length-Width Ratio		Length-Depth Ratio	
	Average	Range	Average	Range
Long	3.6	2.6-5.5	2.1	1.4-2.5
Half Long	2.7	2.0-3.3	2.1	1.4-3.0
Intermediate	2.2	1.6-2.7	2.4	1.6-3.3
Ovoid	1.8	1.2-2.6	2.4	1.6-2.4
Globe	1.1	0.8-1.4	2.4	2.0-3.0
Tankard	1.7	1.1-2.3	2.8	2.3-4.0
Rutabaga (Turnip) Type	Length-Width Ratio		Length-Depth Ratio	
	Average	Range	Average	Range
Round	1.1	1.0-1.3	2.0	1.7-2.5
Flat	0.8	0.6-1.0	2.2	1.9-3.0
Ovoid	1.5	1.2-2.0	2.6	2.1-3.5
Tankard	1.4	1.0-1.7	3.1	2.3-4.0

17.4.5 Maximum Impurity Standards

- a) The standard of purity required for eligibility of varieties of rutabaga (turnip) and mangels, expressed in percentage of roots within the ranges in Table 17.4.4 shall be 90% free from definite off-types.
- b) All type determinations shall be made when the roots have reached (as nearly as practicable) the limits of growth for that year.
- c) Obvious immature roots shall not be included for shape determinations.
- d) All varieties of field roots to be eligible for pedigreed status must be reasonably free from prongs, multiple crown or undesirable characteristics.