

## Bentgrass – Foundation, Registered and Certified Production

The requirements shown here are specifically for Foundation, Registered and Certified production of Colonial, Creeping, and Velvet Bentgrass.

### General Requirements for All Pedigreed Seed Crops

The basic standards for all crops are set out in [General Requirements for All Pedigreed Seed Crops](#). In addition, the following standards apply to Bentgrass.

### Land Requirements\*

Inspected Crop	Must NOT be grown on land which:
<b>Foundation</b>	In any of the 5 years prior to the year of seeding produced: <ul style="list-style-type: none"><li>• a non-pedigreed crop of the same crop kind.</li><li>• a different variety of the same crop kind.</li></ul> In any of the 3 years prior to the year of seeding produced: <ul style="list-style-type: none"><li>• a pedigreed crop of the same variety.</li></ul>
<b>Registered</b>	In any of the 3 years prior to the year of seeding produced: <ul style="list-style-type: none"><li>• a crop of the same crop kind.</li></ul>
<b>Certified</b>	In any of the 2 years prior to the year of seeding produced: <ul style="list-style-type: none"><li>• a crop of the same crop kind.</li></ul>

\*Except where chemical control measures acceptable to the CSGA have been taken to eradicate growth from a previous crop of Bentgrass.

### Crop Inspection

Bentgrass crops must be inspected when the crop is headed and before harvest.

### Age of Stand

The maximum number of years pedigreed seed can be produced from a stand of Bentgrass established with Breeder or Foundation seed is outlined below. The class that can be produced from a stand varies with the class used to establish the crop, the classes of seed through which a given variety may be multiplied and the number of years the stand has been in production.

When crop is established with:									
Inspected crop	Breeder seed of a variety without a Registered class		Breeder seed of a variety with a Registered class		Foundation seed of a variety without a Registered class*		Foundation seed of a variety with a Registered class		
	Foundation	Certified	Foundation	Registered	Certified	Registered	Certified		
Colonial, Creeping, Velvet	3 yrs.	+ 2 yrs.	3 yrs.	+ 2 yrs.	5 yrs.	3 yrs.	+ 2 yrs.		

\*Or when crop is established with Registered seed of a variety with a Registered class.

## Crop Standards

### Isolation

The isolation must be reasonably free from plants that may cross pollinate with the inspected crop. The risk to varietal purity posed by plants that may cross pollinate varies depending on area, density, stage of maturity and distance from the inspected crop. These factors will be taken into consideration in determining the pedigreed status of the inspected crop. Not more than 3 plants per square meter, on average, of plants that may cross pollinate with the inspected crop should be in the required isolation adjacent to an inspected crop.

#### Minimum Isolation Distances Required from an Inspected Crop to Other Crops:

##### 1. Varietal Purity

	Distance
a. Inspected pedigreed Bentgrass of same variety and class	1 meter (3 feet)
b. Inspected pedigreed Bentgrass of same variety, different class	3 meters (10 feet)
c. Planted with Certified seed of the same variety	3 meters (10 feet)*
d. Different varieties of the same crop kind or non-pedigreed crop of the same crop kind	Isolation table below
e. Species that may cross pollinate (CP/DTD in contaminant table below)	Isolation table below

\* For Certified crop status only, provided the pedigree of the Certified seed used can be established.

Area of Inspected Crop	Minimum Isolation Distance		
	Foundation	Registered	Certified
5 acres or less	400 m (1312 ft)	300 m (984 ft)	150 m (492 ft)
More than 5 acres	300 m (984 ft)	100 m (328 ft)	50 m (164 ft)

##### 2. Mechanical Purity

	Distance
a. Bentgrass species with seed difficult to distinguish in a lab test from seed of the inspected crop, but do not cross pollinate (DTD only in contaminant table below)	2 meters (6 feet)
b. Redtop	2 meters (6 feet)

### Border Removal in Lieu of Isolation:

For seed crops in excess of 5 acres, removal of a border from the inspected crop in lieu of the required isolation to a different variety or non-pedigreed Bentgrass is permitted as outlined in the table below. The border must be allowed to shed pollen before being discarded.

Border Removal in Lieu of Isolation Distances		
Inspected Crop	Actual isolation distance from contaminating source	Distance to be removed from the inspected seed crop
<b>Foundation</b>	300 m (984 ft) +	0 m (0 ft)
	200 - 299 m (656 - 983 ft)	3 m (10 ft)
	150 - 199 m (492 - 655 ft)	5 m (16 ft)
	less than 150 m (492 ft)	5 m (16 ft) + 150 m (492 ft) minus the actual isolation distance
<b>Registered</b>	100 m (328 ft) +	0 m (0 ft)
	75 - 99 m (246 - 327 ft)	3 m (10 ft)
	50 - 74 m (164 - 245 ft)	5 m (16 ft)
	less than 50 m (164 ft)	5 m (16 ft) + 50 m (164 ft) minus the actual isolation distance
<b>Certified</b>	50 m (164 ft)	0 m (0 ft)
	30 - 49 m (98 - 163 ft)	3 m (10 ft)
	25 - 29 m (82 - 97 ft)	5 m (16 ft)
	less than 25 m (82 ft)	5 m (16 ft) + 25 m (82 ft) minus the actual isolation distance

### Maximum Impurity Standards

1. **Varietal Purity** (on average in either 10 or 100 m<sup>2</sup>)
  - a. Off-types/other varieties of the same crop kind
    - i. Foundation – 3 plants/100 m<sup>2</sup>
    - ii. Registered – 1 plant/10 m<sup>2</sup>
    - iii. Certified – 1 plant/10 m<sup>2</sup>
2. **Mechanical Purity** (on average in either 10 or 100 m<sup>2</sup>)
  - a. Plants of species that may cross pollinate (CP/DTD in contaminant table below) and plants of species with seed difficult to distinguish in a lab test from seed of the inspected crop, but do not cross pollinate (DTD only in contaminant table below) and plants of Redtop i.e., the combined total number of contaminant plants must not exceed
    - i. Foundation – 3 plants/100 m<sup>2</sup>
    - ii. Registered – 1 plant/10 m<sup>2</sup>
    - iii. Certified – 1 plant/10 m<sup>2</sup>
  - b. Plants with seed difficult to separate (DTS) from seed of the inspected crop will be reported by frequency in the field and will not be a factor in the seed crop certification decision. For Bentgrass, that includes Bluegrass and Orchardgrass.

Inspected Crop	Contaminant		
	Colonial	Creeping	Velvet
<b>Colonial (Browntop)</b>	n/a	CP/DTD	DTD
<b>Creeping</b>	CP/DTD	n/a	DTD
<b>Velvet</b>	DTD	DTD	n/a