



September 2002

Selecting Alfalfa Varieties for Manitoba



Alfalfa is the most important legume for hay and pasture in Manitoba. Its high protein content makes it an important source of livestock feed. And since alfalfa is a nitrogen fixing legume, proper inoculation eliminates the need for nitrogen fertilizer.

Table of Contents:

- [Choosing the Correct Variety](#)
- [Winterhardiness and Bacterial Wilt Resistance](#)
- [Two Types Available](#)
- [Hay and Pasture](#)
- [Three Categories of Alfalfa](#)
- [Soil Conditions](#)

When growing alfalfa for hay, pasture or seed, there are certain guidelines which should always be followed:

- sow in a firm, well prepared seedbed
- use pedigreed seed of recommended varieties
- inoculate with the proper nitrogen fixing bacteria
- follow soil test recommendations for fertilizer application
- implement an effective weed control program A major consideration is the selection of the variety to be grown. It is important to use varieties that will



produce high yields of quality forage and persist in our climate. In Manitoba, varieties are recommended because of their performance under Manitoba conditions. Varieties not recommended have either not been tested in Manitoba or are considered inferior, so there is an element of risk in growing such varieties.

Choosing The Correct Variety

There are no hard and fast rules in choosing an alfalfa variety. It should produce high yields of good quality forage, be resistant to winterkill, pests and diseases, and be suited to the local soil conditions. Although all recommended varieties produce adequately in any area suitable for alfalfa, the end result may be improved by choosing a variety that fits your specific situation. The final use of the alfalfa also affects the choice. A variety recommended for forage production, for example, will not necessarily be a good seed producer.

Winterhardiness and Bacterial Wilt Resistance

The adaption of an alfalfa variety in Manitoba is largely dependent on winter climate. The terms very hardy, hardy, and moderately hardy describe the variety's ability to survive and produce in areas that have severe or medium winter climates.

As the degree of winterhardiness increases, so does the plant's ability to become dormant in the fall. Generally, the most persistent winterhardy varieties initiate growth slowly in the spring, recover slowly after cutting and become dormant (inactive) relatively early in the fall. Less winterhardy varieties begin growth early in the spring, regrow rapidly after clipping and continue to grow late in the fall. They are, therefore, less likely to persist for more than two or three years.



Bacterial wilt resistance is another important factor in the longevity and adaptation of a stand. Bacterial wilt is closely related to winter injury. Winter injured stands are susceptible to attack by bacterial wilt and diseased stands are weakened and easily winterkilled.

If stands are to survive in Manitoba, the alfalfa variety grown must have a high level of winterhardiness and bacterial wilt resistance.

Verticillium wilt is a potentially destructive disease prevalent in some areas of Canada. The disease has been identified in eastern parts of the province in low quantities. Many new varieties on the market are resistant to verticillium wilt.

Two Types Available

The alfalfa varieties grown in Manitoba fall into two categories - Variegated or Flemish.

Variegated alfalfas (*Medicago media*) are derived from crosses between *M. sativa* (purple flowered) and *M. falcata* (yellow flowered) alfalfa. Their flowers range in color and can be purple, blue, yellow or white. The most cold-tolerant varieties grown in Manitoba are variegated. These have been bred to combine winterhardiness and drought tolerance with good yield and satisfactory regrowth.

Flemish type alfalfa (*M. sativa*) originated in northern France. They have purple flowers and are early growing, quick to recover after cutting and moderately winterhardy. Flemish alfalfas usually mature two to five days earlier than Vernal (a variegated type) and should be harvested several days earlier than variegated types



to maintain quality.

Hay and Pasture

Alfalfa varieties are also grouped according to their recommended use. Upright growth, stand persistence and yield potential are characteristics required for hay type alfalfas. Pasture types are bred for quick regrowth so they can withstand grazing pressure. Pasture types like Rambler and Ranglander, for example, were developed for their creeping root system and winterhardiness. Because of these characteristics they can fill open areas in a stand and withstand heavy grazing.

Three Categories of Alfalfa

Alfalfa varieties are grouped into three categories because of different characteristics.

Category	Primary Use	Pros	Cons
Early Maturing	Hay	<ul style="list-style-type: none"> • rapid spring growth • may provide more & earlier regrowth than medium maturing varieties 	<ul style="list-style-type: none"> • least winter hardy
Medium Maturing	Hay	<ul style="list-style-type: none"> • more winter hardy than early maturing varieties • persistent on marginal soils 	<ul style="list-style-type: none"> • 2-5 days later in maturing than early varieties
Creeping Rooted	Pasture and Hay	<ul style="list-style-type: none"> • more flood and drought resistant than other categories • withstands grazing pressure better • persistent on marginal soils • most winter hardy 	<ul style="list-style-type: none"> • lower yields than other category

Note: With all alfalfa varieties the possibility of pasture bloat should be considered when grazing livestock.

Soil Conditions

The texture and condition of the soil also has a bearing on alfalfa persistence. Alfalfa has a deep root system so it can withstand dry conditions better than shallow rooted forage crops. Although it can take up more moisture than other crops, it cannot survive in wet soil. Drainage must be adequate to obtain good yields and long-lived stands. On poorly drained soil, disease may damage stands.

Summary

When selecting an alfalfa variety consider its persistence, forage and seed yield potential, rate of growth, and the intended use. Choose winterhardy, bacterial wilt resistant high yielding varieties.

Management is the key to successful establishment and persistence. The following seeding practices should be followed:

- buy good clean seed of a recommended variety. Certified seed is the only way to guarantee the correct variety.
- apply fertilizer according to soil test recommendations.
- inoculate all seed immediately before seeding (see Manitoba Agriculture, Food and Rural Initiatives publication [Legume Inoculation Cuts Fertilizer Need](#)).
- use recommended seeding rates, dates, and depths (see Manitoba Agriculture, Food and Rural Initiatives [Field Crop Production Guide](#)).
- sow into a moist, firm, weed free seedbed
- use recommended weed control practices (see the Manitoba Agriculture, Food and Rural Initiatives [Guide to Crop Protection](#)).

For further information, see the Agriculture Canada publication "Growing and Managing Alfalfa in Canada".

For more information, contact your local [Ag Rep or Forage Specialist](#) at Manitoba Agriculture.

Government Links: [home](#) | [welcome](#) | [on-line services](#) | [news](#) | [help](#) | [departments](#) | [contact](#) | [privacy](#)