Pasture and Range Health
FACTSHEET

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PASTURE MANAGEMENT

Pasture Mixes

Mixes are more common in pasture seedings, and are often more complex, with many species being included on the theory that given the variable conditions that often occur in pastures (e.g. wet areas, hilltops, etc.) the species most adapted to a particular part of the pasture will eventually dominate. Unfortunately, what usually happens is a great many species will try to grow initially, usually at the expense of the most productive species. The primary recommendation for pasture mixes is to keep it simple, with no more than 2 to 4 species in the mix.

For irrigated pasture for sheep or cattle, orchardgrass with either white or red clover or alfalfa is recommended. Although alfalfa is initially more productive than the clovers, it is less tolerant of grazing and soon disappears from pastures. White or ladino clover, at 25 percent (maximum) of the seed mix with orchardgrass is recommended for well drained soils.

On heavier more acidic soils, red clover may survive and produce better than white clover, but is shorter lived. In areas with good snow cover, where winterkill is not a problem, perennial ryegrass makes excellent pasture. However, for most parts of the Southern Interior of British Columbia, it is not reliably winter-hardy.

Tall fescue is a new grass species for the Southern Interior area of British Columbia. Tall fescue is similar to orchardgrass in yield, but has the advantage of maintaining feed quality longer into the fall and winter, making it well suited for extended grazing systems.

One of the disadvantages of tall fescue is lower palatability during the growing season than orchardgrass. It is also important to use only forage variety tall fescue, and not turf varieties. Turf varieties have endophytes (a type of fungus), which increases hardiness and resistance to trampling, but can be toxic to livestock, especially horses.

Regular meadow bromegrass, although not common in this area, has good potential as a pasture grass. Its main attribute is early spring growth, but it has less late season production than orchardgrass

For horse pasture, where rate of gain is not the major objective, Kentucky bluegrass/white clover should be considered. Although less productive than orchardgrass, it is more tolerant of close grazing and can reduce chances of founder and obesity in horses. The low growth habit of white clover is also well adapted to close grazing.

Intensive Irrigated Pasture Management

Intensive management of irrigated pasture has the potential to provide a good economic return with minimal machinery investment.

Intensive management of fertilizer, irrigation and grazing is required to obtain the best returns per unit of land area.

General principles of pasture management are presented below:

- Orchardgrass seed at 15-20 pounds per acre (with 2-3 pounds of clover or alfalfa) is the main grass species recommended for irrigated pasture in the Southern Interior of British Columbia.
- Initial fertilizer use should be determined by a soil test prior to seeding.
- Subsequent fertilization will normally be nitrogen; it is recommended that approximately 50 pounds per acre of nitrogen fertilizer should be applied at monthly intervals throughout the grazing season.
- Stocking rate varies depending on pasture productivity. Productive irrigated pasture in this area should support 2-3 head of yearling cattle for 120-150 days.
- Stock intensity (which is the number of animals per acre at any one time) should be 10 animals per acre or greater to ensure even utilization of the forage, and to minimize selective grazing.
- To achieve the recommended stock intensity, pasture subdivision (fencing) is required. Although opinions vary as to the number of pastures required, the minimum number recommended to maximize production is 8 pastures. Fewer than this result in the forage plants being re-grazed too soon. It is also important to note that more pastures increase fencing costs and require more labour, without necessarily increasing production.
- Keep grazing management flexible – the grazing rotation time will vary from spring to fall, depending upon the rate of forage growth (fast growth equals fast rotation).
- Consider supplementary feeding (e.g. grain) when pasture growth slows in late summer, or include annual pastures in the rotation to provide increased grazing in late summer and fall.
- Match your pasture management system to your livestock requirements – yearling cattle will have different nutritional requirements than cow-calf, therefore different grazing management is required.

Seeding Rate Recommendation

One of the most frequent questions asked is “How much should I seed ?” Although seeding rates are important, especially as they normally represent a significant cash output, the ultimate success of a seeding is much more dependent on other factors such as irrigation, fertility and harvest or grazing management.

Seeding rates are expressed in units of weight per unit of area (e.g. kg/ha or lb./acre) but the number of seeds in a given unit of weight varies tremendously (for example alfalfa contains approximately 440,000 seeds per kg, timothy 2,700,000 seeds per kg.). If alfalfa is seeded at 10 pounds per acre this is a density of 46 seeds per square foot; timothy at 10 pounds per acre would have over 270 plants per square foot. A medium seeding density is 50 seeds per square foot. Obviously, not all seeds germinate and grow, but in an established alfalfa field, 4 to 5 plants per square foot is normal. It is apparent that following good management practices at seeding time and throughout the establishment year is important to obtain a good stand.

The following seeding rates assume a good seed bed and adequate irrigation and weed control during the establishment season. Higher seeding rates may result in a greater establishment year yield, but research has shown that yield differences are not significant in subsequent years.

Dryland seeding rates are typically lower as fewer plants can be supported by the available moisture.

Southern Interior – Forage Seeding Rate Recommendations for Non-Irrigated Silage, Hay or Pasture

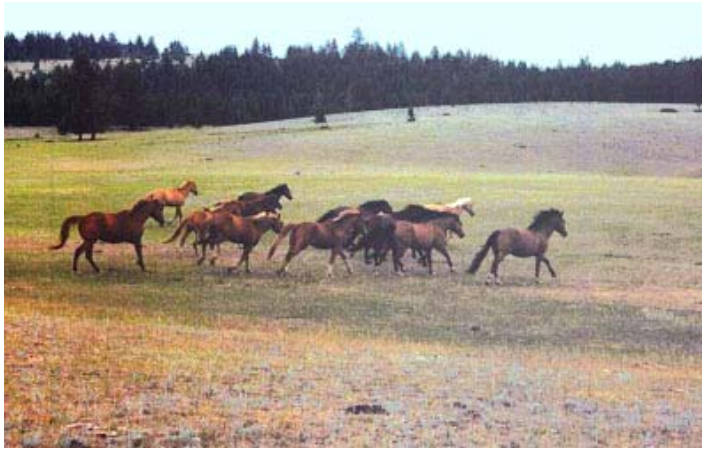
Precipitation Range	Species	Seeding Rates (lb/ac)	
		Silage or Hay	Pasture
Under 330 mm (13 inch)	Crested wheatgrass	5	5
300-375 mm (12 – 15 inch)	Crested wheat grass + alfalfa	6 + 5	6 + 2
Over 375 mm (15 inch)	Crested wheatgrass + bromegrass + alfalfa	0 + 0 + 10	3 + 5+ 2
	Bromegrass + alfalfa	0 + 10	8 + 2
Over 450 mm (18 inch) sub-irrigated or high water table	Bromegrass + orchardgrass + white clover (low)	4 + 16+ 1	4 + 12+ 1
	Perennial ryegrass + white clover (tall)	15 + ½ to 1	_
	Timothy + Alsike clover + white clover (tall)	6 + 4+ ½ to 1	_
Areas subject to flooding	Reed canary grass + Alsike	10 + 2	
	Meadow foxtail	10 to 15	–

Southern Interior – Forage Seeding Rate Recommendations for Irrigated Silage, Hay or Pasture

Species	Seeding Rates (lb/ac)	
	Silage or Hay	Pasture
Meadow bromegrass + alfalfa	_	10 + 2
Orchardgrass + white clover (tall)	_	10 – 15 + ½ -1
Perennial ryegrass + white clover (tall)	_	20 + ½ -1
Alfalfa	10	_
Alfalfa + smooth bromegrass	8 + 4	_
Alfalfa + orchardgrass	8 + 4	2 + 12
Alfalfa + intermediate wheatgrass	6 + 8	_
Alfalfa + pubescent wheatgrass	6 + 8	_

Southern Interior – Forage Seeding Rate Recommendations for Horse Pasture

Species	Seeding Rates (lb/ac)
Orchardgrass + white clover	10 – 15 + ½- 1
Kentucky bluegrass + white clover	10 + ½ - 1



Southern Interior – Forage Seeding Rate Recommendations for Annual Crops for Silage, Hay or Pasture

Species	Seeding Rates (lb/ac)
Oats, barley or wheat (alone or mixed	100
Double Crop barley	100
Barley/Annual ryegrass	80 + 20 - 30
Annual or Italian ryegrass	20 - 25
Field corn (silage) for varieties see field corn recommendations	30,000 to 36,000 seeds/ac
Sorghum or sorghum-sudangrass hybrids – 18 to 35 cm (7 to 14 in.) rows	15 - 30
Faba beans (silage only) 15 to 20 cm (6 to 8 in.) rows	125 - 150
Fall rye (pasture only)	100
Spring planted winter wheat	80

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