

Brief Overview of Pasture Species and Mixtures
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I would like to review some common pasture species as well as highlight some new species that seem to hold potential for pasture use in Ontario.

Orchardgrass:

Orchardgrass can be your most productive pasture grass, but it needs high levels of management to be successful. It needs favourable land to thrive, meaning fertile land with good moisture holding capacity. At the same time orchardgrass likes land that is reasonably well-drained and does not flood in spring. It has a higher risk of winterkill compared to most other grasses.

Orchardgrass performs best under intensive grazing (4 to 8 passes/year), but it takes excellent pasture management to get the best out of orchardgrass. In my mind it only mixes well with white clover or alfalfa. It is generally too competitive for trefoil mixtures of mixing with other grasses. Orchard heads out earlier than other grasses and you have to be prepared to cut earlier if the pasture gets ahead of you. Mature orchard makes coarse, unpalatable hay in my experience.

Think of orchard as your "high performance" grass for your best land, but also as your "highest risk" grass since its easy to mismanage and it is more susceptible to winterkill.

Reed Canarygrass:

Reed canarygrass is quite underrated and underused in my opinion, although I can appreciate the reasons why its not used very much. Reed canary will thrive on both high and low land, does fairly well under drought conditions and is probably the most winterhardy of our common grasses. The low-alkaloid varieties are very palatable and are a must when selecting a variety.

Reed canary heads about the same time as brome grass and makes good hay providing it is cut at head emergence. At New Liskeard, we have no trouble getting a good cut of silage from reed canary in June, grazing it in late July, and having a good volume of pasture for grazing in November. In fact I think this grass may be ideal in a mixture with other grasses for fall beef cow pasture. Reed canary mixes well with less competitive species, such as trefoil and brome grass, but is competitive enough to be mixed with white clover as well.

The first problem with reed canary is its difficulty in establishment. However, we have found that with a good seedbed and proper seed placement and coverage, reed canary will establish quite well. The second problem is high seed cost, which of course is more difficult to overcome. Under ideal seeding conditions, the seeding rate can be reduced which in turn will lower seed costs.

Smooth Brome grass

Smooth brome has been a major disappointment for me in pastures on both research station and on-farm experience. Smooth brome is still a standard for both hay and pasture, but establishment problems and slow regrowth are both negatives. On the other hand, for systems where one hay cut and one grazing are normal, smooth brome is ideal. It is very winterhardy, and provides good

yields of palatable hay. It mixes well with trefoil and other tall-growing grasses, but won't withstand the type of intensive grazing orchard and white clover will withstand. Seed of smooth brome is quite expensive this year which is another negative. Overall, I would restrict my use of smooth brome to areas that are not highly productive and only two passes per year are expected.

Meadow Brome:

Meadow brome is related to smooth brome and is mostly grown in the Parkland region of the prairies. It has been studied in New Liskeard since 1993. Meadow brome's biggest advantage over smooth brome is that it regrows much faster and therefore it is much better for pasture. It has good winterhardiness but doesn't spread as rapidly as smooth brome so it is important to get a good stand in the seeding year.

Meadow brome heads about 5 days earlier than smooth brome and has hay yields about 5 to 10% less on the first cut. It makes palatable hay and is well suited to a system of 1st cut hay followed by two or three grazings. The regrowth is similar to orchard in that there are no stems, just leaves, which is ideal for pasture but you can't let the regrowth get too rank or self-shading and leaf yellowing will occur. Seed of meadow brome grass is readily available in the west and can be obtained in Ontario as well. There are two main varieties available, Fleet and Paddock. Data from western Canada indicates little difference in performance between these two varieties.

Tall Fescue:

Tall fescue has been around for years but has not been used much in Ontario lately. We started looking at this species in 1993, mostly as a fall and winter pasture species. Tall fescue has fair to good winterhardiness at New Liskeard. There are large differences in winterhardiness among varieties and therefore variety selection is critical. Tall fescue has good to excellent regrowth for pasture. Its heading date is similar to smooth brome. Tall fescue has a reputation as being unpalatable but this is only partly true in my experience. It seems that rank growth in hot weather is the most unpalatable. This situation can be avoided by taking the first cut for hay (we have fed this to light calves with good success), followed by grazing at rather frequent intervals to prevent the leaves from getting coarse.

For fall pasture, tall fescue is excellent. We have a significant amount of data indicating that tall fescue has higher energy levels in the fall and early winter as compared to other common forage grasses. For producers who want to extend the grazing season, tall fescue should be considered.

Alfalfa:

Alfalfa can be grazed, but producers tend to worry about bloat and winterkill. In general, a light grazing instead of mechanical harvesting should not increase winterkill risk in alfalfa substantially. However, more intensive pasturing of alfalfa can be a risk. Varieties which are grazing tolerant are available in the USA and one variety of this type is currently recommended in Ontario with about 10 more under test. It is important to realize that all alfalfa varieties require "good alfalfa ground", meaning proper pH, drainage, and fertility. Alfalfa and orchardgrass make a good combination for intensive grazing, but again the bloat concern needs to be addressed.

White clover:

In general, white clover is the pasture legume of choice for better land where drought is not routine. White clover will mix with orchardgrass for intensive use, but also works with most other grasses. White clover will readily frost seed, which allows it to be added to a pasture without tillage in most cases. Seed is expensive per pound but only 1 to 2 pounds per acre is needed so the overall cost is reasonable.

Kura clover:

Kura clover is similar in appearance to white clover but kura clover spreads by underground rhizomes (like quackgrass). This makes it extremely winterhardy and long-lived. Kura clover is virtually unknown in Ontario but studies on it have been carried out at New Liskeard since 1994. Its use is becoming more common in Minnesota but seed supply is still limited. I see kura clover doing the same job as white clover except it should be more drought tolerant and longer lived. It can cause bloat. In my experience, kura clover is slow to establish, but as with reed canarygrass, excellent seedbed preparation and proper seed placement can overcome this problem. It is very important to properly inoculate kura clover seed with the proper strain of bacteria since these bacteria do not exist naturally in Ontario soils. Our initial data suggests that kura clover will mix well with reed canarygrass, but I worry that over time the pasture will become dominated by clover and carry a high bloat risk. A little orchardgrass in the mix would solve that problem, but orchard is likely too competitive in the seeding year to allow the kura to get started. We are continuing to work on this issue. In the meantime, if you want to pay the price, I would encourage local soil and crop clubs or management groups to try a small area of kura clover to see how it will perform locally.