

Annual Forages for Silage, Greenfeed and Grazing



In 2021, Manitoba was quite dry with large areas of agro Manitoba receiving 52-76 per cent normal precipitation, and 96-121 per cent of normal heat units. 2022 has been the opposite, with above average precipitation falling across all of Manitoba and some areas received over 300 per cent normal rains in May. To help manage the wet conditions and delayed seeding, livestock producers can grow annual forage crops that can be cut for silage or greenfeed or used for grazing.

Planting annual cereal crops for green feed or silage is an option for late season planting. They can provide high energy feed for livestock within a reasonable period of time. Cereals can be used for summer pasture within four to six weeks of seeding. However, it is important to graze above plant growing points to maintain quick regrowth. If moisture removal is the main objective this summer, harvesting the crop as greenfeed, silage, or swath grazing is recommended. Post-harvest regrowth can provide late season grazing, but regrowth is dependent on sufficient moisture and fertility availability.

Annual crops are more efficient moisture users, compared to their thirsty perennial forage cousins. Corn needs three inches of water to produce one tonne of dry matter, compared to over six inches for alfalfa and timothy. Barley needs about four inches, and oats require just under five inches of water used per tonne of dry matter yield produced. This is why during the recent dry years, annual forage crops still yielded reasonably well but the perennial forage crops suffered more.

Plants such as corn, millet and sorghum are warm season crops that have the best heat tolerance. They are also the most efficient users of moisture and nitrogen when compared to annual cool season cereals commonly grown for feed. Millets have produced excellent forage yields in Manitoba when hot July and August temperatures are experienced. Foxtail millets are longer season crops and are higher yielding compared to proso millets. Both foxtail and proso types are suitable for hay/green feed production, providing excellent quality feed when cut at the proper stage, shortly after heading. However, during cool years, barley and oats will typically produce higher forage yields than millet.

When growing annual crops, earlier seeding usually produces higher yields, whether it is being grown for silage or for grain. Corn is a very high yielding crop that can be grown for silage or grazing but requires optimal fertility and weed control and a longer growing season. Oats, barley or triticale can be grown for greenfeed, silage or swathed for grazing. Seeding a mix of a winter cereal and a spring cereal can be used for grazing in the spring or it can be cut for greenfeed and the winter cereal will regrow and can be grazed later in the summer/fall. Fall rye and winter wheat are typically used for grazing since their regrowth is much better than that of spring cereals. Winter cereals are not the best option for producing greenfeed or silage because they require an over-wintering period to produce tillers and to head out. Adding cover crops or Italian rye grass to the cereals will provide more forage for later summer or fall grazing.

Higher sugar levels and a lower buffering capacity (less calcium) makes it easier to convert annual forage crops into well-fermented silage. Perennial forages can be ensiled, but conditions have to be closer to ideal to make a high quality feed.

Harvesting annual forage crops

Annual crops harvested on a timely basis make excellent quality feed and may be harvested as a greenfeed, chopped silage or a baled silage. Advantages of harvesting feed as silage include: 1) lower nitrate levels by 30 to 50 per cent, 2) silage harvest is less weather-dependent, and 3) less field and storage/weathering losses.

Harvesting cereals for greenfeed or silage at the optimal time will maximize quality and yield. Most annual crops (e.g., barley, triticale) should be harvested at early dough stage or late milk (oats) when being cut for forage. The days required for maturity for forage harvesting will be approximately 10 days to two weeks earlier than for grain harvest, with barley maturing the earliest, followed by oats and then, triticale.

Optimal harvest stage for annual crops cut for greenfeed or silage

Crop	Proper harvest stage
Oats	Late milk
Barley	Soft dough
Spring or Fall Rye	Early dough
Triticale	Soft dough
Spring or Winter Wheat	Early dough
Foxtail Millet	Early heading
Peas	First pods wrinkle



Sorghum sudangrass July 20, 2021 at Manitoba Crop Development Centre (MCDC) near Carberry



MCVET Annual Forage Trial at Carberry's MDCDC

In 2021, Manitoba Agriculture conducted four research trials, one at each of the Crop Diversification Centres near Arborg, Roblin, Melita and Carberry to compare the yield and quality of a number of annual crops grown for feed. We would like to thank the dedicated staff at each of those locations for carrying out this research work. We would also like to thank our partners on the project—the Manitoba Beef Producers, the Manitoba Seed Growers Association and the Manitoba Crop Variety Evaluation Team.

You can find last year's results on page # 113 of the 2022 *Seed Manitoba Guide*.

Contact Us

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