Regional Silage Variety Trials; Quick Facts

Trial Site: Fairview Research Farm
Duration: Ongoing Project
Data from 2019

Every Year, PCBFA takes part in the Regional Silage Variety Trials organized by Alberta Agriculture and Forestry. The RSVTs generate scientifically sound variety performance information to livestock producers, industry, and extension specialists. In addition to PCBFA's results being posted in the annual reports, the results from trials across the province can be found in the Alberta Seed guide.

Barley Varieties	Oat Varieties	Spring Triticale and Soft White Wheat	Pea/Cereal Intercrops
CDC Austenson (Check)	AC Juniper	AAC Delight (Triticale)	AAC Austenson Barley (monocrop check)
CDC Cowboy	CDC SO-1	Sunray (Triticale)	Taza Triticale (Monocrop Check)
TR17639	CDC Haymaker	Bunker (Triticale)	CDC Baler Oat (Monocrop Check)
Canmore	Oravena	Circuit (Triticale)	CDC Austenson Barley/CDC Jasper Pea
CDC Maverick	ORE 3541M	T256 (Triticale)	CDC Austenson Barley/CDC Meadow Pea
Claymore	CDC Nasser	Taza (Triticale)	Taza Triticale/CDC Jasper Pea
CDC Coalition	CDC Baler	Brevis (Triticale)	Taza Triticale/CDC Meadow Pea
Altorado	AC Morgan	AAC Awesome (SWW)	CDC Baler Oat/CDC Jasper Pea
CDC Bow	Kongsore	AAC Paramount (SWW)	CDC Baler Oat/CDC Meadow Pea
CDC Fraser	CDC Seabiscuit	AC Andrew (SWW)	
Sundre (6-row)	ORE 3542M	AC Sadash (SWW)	
SR17519 (6-row)	Murphy		
SR17515 (6-row)	Arborg		
AB Advantage (6-row)			
Amisk (6-row)			
AB Cattlelac (6-row)			

Barley Results

This year, as always, we included a few new barley varieties (e.g. AB Advantage and AB Cattlelac) in the evaluation of barley varieties for silage production. In our test this year, all barley varieties produced 4 tons forage DM/acre or more. The top 5 varieties were Sundre (10,620lb/acre), SR17515 (10,502lb/acre), Amisk (10,392lb/acre), CDC Fraser (10,222lb/acre) and SR17639 (9,791lb/acre). In this year's trial, all varieties produced higher forage DM yield than CDC Austenson (check – 8,122lb/acre). In most cases, the varieties had sufficient protein for mature beef cows. Surprisingly, with the amount of rainfall received later this year and the non-uniformity in plant growth earlier in the spring, the varieties tested had adequate energy (%TDN) for both young and mature beef cattle. However, because of the inability of most barley varieties tested here to meet all the mineral requirements of young and mature beef cattle, it is essential to have free choice minerals when feeding any barley variety.

Oats Results

In this test, the top 3 forage DM yielders are Ore3541M (9944lb/acre), Oravena (9215lb/acre) and AC Morgan (8965lb/acre). These oats also grew taller than the other oat varieties tested in this trial.

The forage CP varied from 10.0 -12.4% CP and the oats were therefore generally considered adequate in protein for a dry gestating beef cow. Except for AC Juniper, (10%) CDC SO-1 (10.7%), Oravena (10.7%) and ORE 3541M(10.7%) most oats met the 11% CP required by a lactating beef cow. The oats produced similar %TDN and were generally considered to be sufficient in energy for mature beef cattle. Although the mineral content of these varieties would generally be adequate for a dry, gestating beef cow, free-choice minerals (with guaranteed mineral analysis) would be recommended to address any shortfall, particularly of Cu and Zn.

Triticale and Soft White Wheat Results

All triticale and soft white wheat varieties tested produced >4 tons DM yield/acre. The top 4 in forage DM yield are AAC Delight (10,237lb/acre), Brevis (10,234lb/acre) and Circuit (11,300lb/acre) (triticale), and AAC Paramount (10,103lb/acre) (soft white wheat).

The protein and energy levels in all triticale and soft white wheat were sufficient for mature beef cattle. The macro minerals measured here (Ca, P, K, Mg and Na) were all adequate for a dry gestating beef cow. However, except for K, the macro minerals were not sufficient for a lactating beef cow. Overall, the present study shows that triticale and soft white have good forage potential and can be used for livestock production.

Pea/Cereal Mixes Results

The statistical analysis showed that the cereal/pea mixtures produced similar forage DM yields. However, mixtures with CDC Meadow peas seemed to have a tendency to produce higher forage DM yield than mixtures with CDC Jasper peas.

All mixes and cereal monocrops (except for CDC Baler monocrop) seemed to have adequate CP for a dry gestating beef cow (7% CP in mid-pregnancy and 9% CP in late pregnancy) and lactating beef cow (11% CP). The forage energy of all mixes and monocrops, as determined by total digestible nutrients (TDN) exceeded the %TDN needed by mature beef cattle in all stages of pregnancy. All Mixes and monocrops provided sufficient Ca for dry gestating beef cattle. However, all cereal monocrops and mixtures fell short of the 0.58% Ca required by a lactating beef cow. Similarly, all cereal monocrops and mixtures tested met the P requirements of a dry beef cow. However, none of the cereal monocrops and mixtures provided the 0.26% P required by a lactating beef cow.

Only CDC Austenson barley + CDC Jasper pea mixture had <1.00% K. Other mixtures and cereal monocrops had >1.00% K. None of the cereal monocrops and mixtures fell short of the amount of K needed by mature beef cattle. The forage Na generally varied from 0.11 to 0.12%. This indicates that the requirements for Na by mature beef cattle have been met by all cereal monocrops and mixtures.

More information on RSVT trials can be found at www.seed.ab.ca/variety-trials/silage, in PCBFA's Annual Reports on peacecountrybeef.ca or by contacting PCBFA staff at info@pcbfa.ca