

How Planting Date Affects Yield and Harvest Time of Swath Grazing and Greenfeed

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Previous research conducted by the late S. Kibite indicated large whole-plant yield losses as planting was delayed from mid May until late June. The losses were about 40% for barley and 30% for oat. The late planting dates are typical of those used for swath grazing. Unfortunately the savings made through swath grazing are eliminated by the effect of late planting on yield. In the Kibite study there were only two planting dates which is not enough to develop a good relationship between planting date and yield. This trial looks at the yield, quality and harvest time from weekly seeding dates from mid May until the last week of June. We want to know when to plant to predict swathing times without sacrificing yield.

Sufficient interest in grazing corn exists to determine yield comparisons in early planted corn to small grain cereals as their planting date is delayed. As small grain planting date is delayed, their lower yield causes corn to become competitive on a cost of feed per day basis. This same information is of use for silage production as late planting is often used to spread out silage harvest.

In this trial, barley, oats and triticale seeded at seven weekly seeding dates were compared to corn seeded on May 15. A corn harvest was taken at each of the cereal harvests for comparison. This trial was done at Lacombe, AB and at Falher, AB in cooperation with the Smokey Applied Research and Demonstration Association. We have compiled the first year's data and put together some graphs showing trends from the trial.

When we look at figure 1, the trend at Lacombe shows a decrease in the yields of the cereals as we delay seeding. This was more significant with barley than the oats or triticale. Early seeding may increase tillering and reduce the effects of disease. Small grains exposed to longer days by planting later or further north may take fewer days from planting until heading; corn may take longer to silk. At Falher, the cereal yields actually increased with the delayed seeding which is contrary to what we expected. This difference may be due to growing conditions during the growing season or possibly the longer growing days in the Peace region. At both sites the corn yields increased throughout the growing season as it took advantage of the entire growing season.

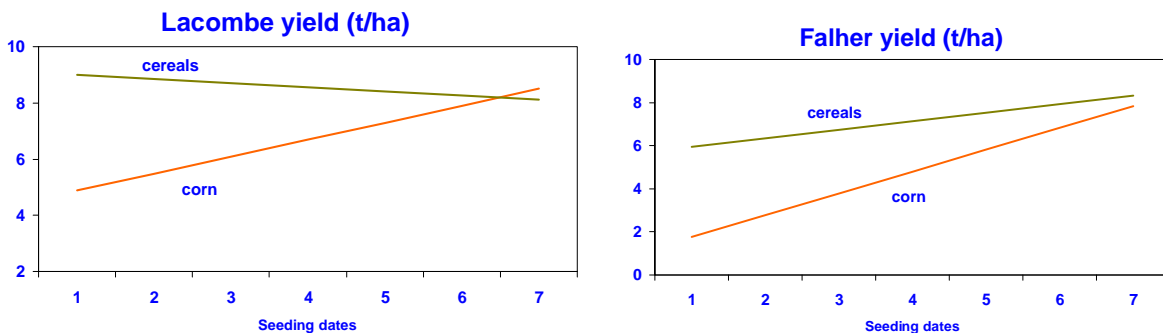


Figure 1. Whole plant yields trends

The *in vitro* total digestibilities (IVTD) (Figure 2) of the cereals at Lacombe were the same as the corn, with a slight decrease in digestibility of the cereals as seeding was delayed. At Falher, the cereal digestibility trend was similar to Lacombe although the corn digestibility was considerably higher than the cereals at Falher.

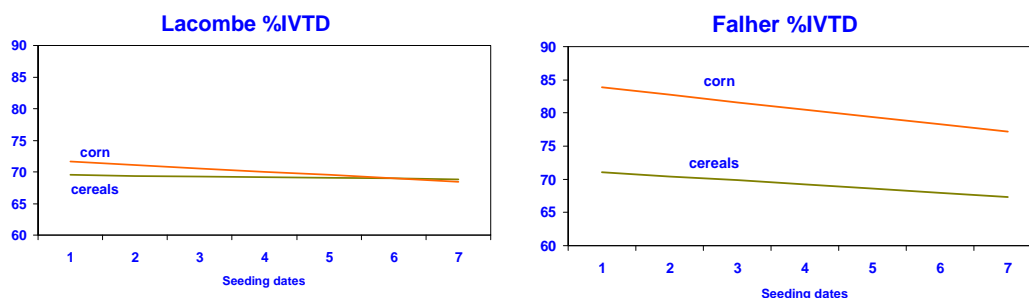


Figure 2. Percent *in vitro* total digestibility

Table 1 shows the days from seeding until harvest at both sites. These days from seeding are an average of all the cereals, with barley being earlier and triticale being later. The long growing days in the spring and early summer at Falher had an effect on the days to harvest as the days increased from 74 to 89 days from the first seeding date to the seventh seeding date.

At Lacombe, the days to harvest remained constant at around 82 days over all the seeding dates. The longer days leading up to June 21 reduces the days to flower in cereals which will reduce days to harvest. Up until the 4th planting date Falher took fewer days until harvest than Lacombe; after the 6th planting date, June 19, Falher took more days. The May 15 seeding was harvested July 29 at Falher, which may be too early for fall and winter swath grazing, whereas at Lacombe, that seeding date would be harvested August 8. The 5th seeding date which was seeded on June 12 was harvested on September 1st at both Falher and Lacombe. Growing conditions will have a major affect on days to harvest as well.

Table 1. Days from seeding to harvest – Average of all cereal crops

	Seeding date							
	1	2	3	4	5	6	7	mean
Lacombe	84	82	83	83	82	81	78	82
Falher	74	75	78	78	82	85	89	80

Seeding dates weekly beginning May 16 until June 27

This was the first year of a three year study and although the results are inconclusive with the limited data, we look forward to this year's trial to see if these trends continue. We are very interested in finding if barley, oat and triticale respond differently for harvest times when planted over a range of weeks in the spring at these Northern locations with different photoperiods.