ALBERTA AGRISYSTEMS LIVING LAB

Interseeding for After-Harvest Grazing

July 2025

Producers in Alberta have been experimenting with interseeding forages and cash crops to get some additional ground cover and grazing days on their crop fields. The cash crop provides the main income, while the forages create an opportunity to get cattle out on the field and maintain cover to reduce erosion, strengthen soil health, add some nutrients, and ease pressure on other grazing lands.

Interseeding a cover crop is similar to using companion crops to establish a forage stand, but there is a difference in the goal. For an after-harvest grazing cover crop, the forage stand is not expected to survive to the next spring, and cash crop production is still the focus. In contrast, for a companion crop, the cash crop is meant to assist the growth of a perennial forage stand.

The big question is, can this be viable in Alberta's climate? We talked to two Alberta producers about their experience with interseeding and added some notes from studies that have also experimented with interseeding for cover and grazing after harvest.

See also BCRC's Cover Crop Capabilities for more examples from 2020.

Key Takeaways:

1. **Keep a clear goal**: Which species to choose, when species are seeded, and what the seeding rates will be will depend on what your crop yield target is and what your after-harvest grazing goal is.
2. **There is no guarantee that forages will establish on dryland**: This is especially true if you don't want to lower cash crop yield.
3. **Don't expect big changes to soil fertility**: Cover cropping will not change the inputs you use in less than 10 years but keep an eye on long-term changes.
4. **Keep seeding costs low**: The lower the direct costs are, the better the chance that extra grazing days pays for them in the long run.

Producer Experiences

Central Alberta

A Living Lab producer in central Alberta has been trialing the interseeding of winter triticale into barley and wheat crops. The only additional costs were for the triticale seed and the machinery pass, as the triticale was seeded several weeks after the main crop. Fertilizer rates remained the same as in previous monocrop years.

In 2023, he seeded winter triticale at 15-inch row spacing into a standing wheat crop. No other changes were made to the field's inputs, and wheat yields were unaffected. He was able to graze the 15-acre triticale strip for one week, providing some rest for his main summer pastures. The triticale overwintered successfully and came back strong in spring 2024, but was terminated to make way for a barley crop.

In 2024, he followed a similar approach, seeding triticale into barley at both 15-inch and 7.5-inch spacing. However, due to dry conditions, the triticale failed to germinate in both row spacings. Despite the additional seeding, the barley crop was unaffected and yielded as expected.

In both years the cash crops were seeded in mid-May, and triticale seeded in late-June.

Top Tips

1. **Best to see this as a potential bonus**: If you prioritize the cash crop, there may not be a guarantee for the triticale.
2. **Have a backup plan for grazing:** Make sure you are covered if you don't get the extra grazing days.
3. **More spacing gives the triticale a chance**: Wider spacing seemed to give the triticale a better chance to germinate.

Southern Alberta under Irrigation

We have previously written about Susan Heather's operation where Italian ryegrass was seeded into wheat. The wheat was silaged for the feeder operation, and the cow herd grazes the grass after harvest. In 2023, their cows were grazed the field for nearly the entire winter season, so we followed up to see how the 2024 crop managed.

In 2024, the field was seeded with a barley crop, and the Italian ryegrass was seeded with a smaller seed drill right after, which appeared to give the ryegrass a boost from the previous year. Susan also reckons that the barley is just less competitive compared to wheat. The

barley silage yield was significantly lower than a monocropped barley, but the Heathers get a huge benefit from the grazing they get from the ryegrass.

Susan's noticed other mixed producers in the area are trying intercrops to keep cover on the fields. The main benefit seems to be reducing pressure on other pastures and reducing winter feed costs.

The cash crops are their main goal, and keeping the field covered to capture moisture and provide grazing is their secondary. That's why they've decided to stick with just Italian ryegrass, to avoid issues other species might cause for future crops rotated onto the field.

Top Tips

1. **Weigh out the benefits**: Recognize the silage yield will be reduced, and is offset with the benefit of cover and grazing.
2. **Keep experimenting**: There is always some fine-tuning that can be done, even when you find a mix you're happy with.
3. **Don't expect major changes to inputs**: Besides the extra pass for seeding the cover crop, there shouldn't be any changes.

Research Findings

Trials of after-harvest grazing in Iowa and the dryer interior of Washington state support many of the producers' observations. First, that the cover crop or the cattle probably won't affect soil fertility in the short term, so there won't be a change to fertilizer use (Iowa Beef Center, 2020). Second, forages may fail to establish when the moisture just isn't there or if the interseeded crop is too crowded (Tao et al., 2020).

The next step will be to see if economic returns are in the producers favour in the long run based on the additional grazing days. Getting an extra week a year of grazing can potentially lower the winter feed costs, and cover crops are very effective at preventing erosion. There is also some evidence that grazing increases the total biomass of the cover crop, which can improve the ability of cover crops to control erosion (Planisich et al., 2021).

References

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