

Interseeding Forage Crops into Corn

Integrating crop and livestock systems to extend the grazing season



Hypothesis. Interseeding forage crops into growing corn crops to be grazed after corn grain harvest will extend the grazing season, reduce stored feed needs, not adversely affect corn yields, and improve soil health and land carrying capacity, thereby improving farm sustainability.

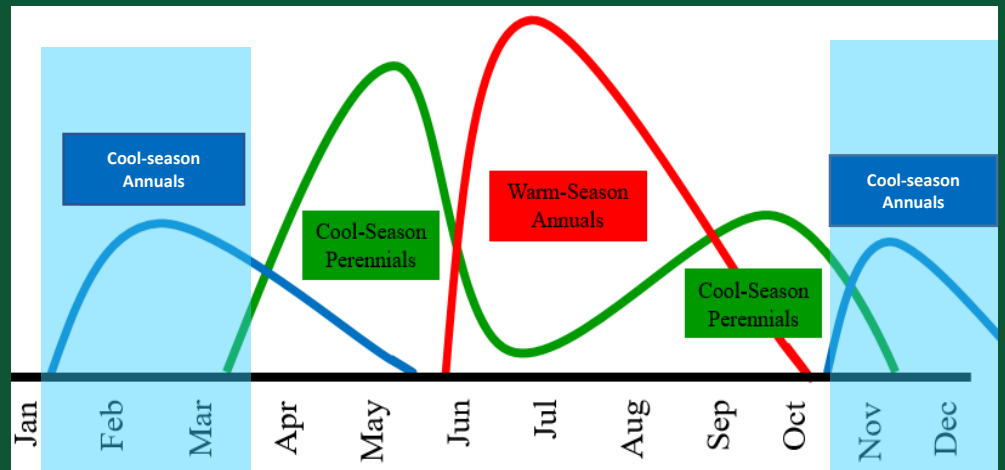


How does interseeding work?

When planted corn reaches V4-V7 stage (less than 18" tall), the Interseeder™ is used to drill forage seed between corn rows. The Interseeder™ also simultaneously side dresses nitrogen and applies herbicide between rows. The interseeded forage then grows slowly until corn is harvested, after which it develops rapidly.

This can provide additional forage later in the grazing season which, alongside grazing corn stover, can:

- Increase length of the grazing season
- Provide additional high-quality forage
- Reduce stored feed needs
- Improve soil quality and subsequent crop yields



Interseeded cool-season annuals can fill late or early forage production gaps and improve subsequent crop yields.



Left: Interseeder™ drilling seed and applying nitrogen and herbicide between corn rows. Right: Interseeded annual ryegrass growth after corn harvest.

USDA-ARS PASTURE SYSTEMS AND WATERSHED MANAGEMENT RESEARCH UNIT

Approach

- Project started in 2017
- 12, 2-ac paddocks planted in corn (30" rows, 28,000 plants/ac)
- Corn interseeded with cereal rye (2 bu/ac) when corn reached V4 stage
- Corn harvested as grain in Oct/Nov
- 6 paddocks grazed by beef cows in Nov/Dec
- Same paddocks grazed again in May if sufficient regrowth



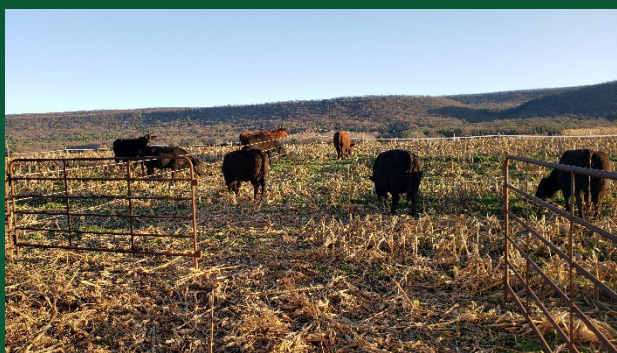
Average Grazing Crop and Forage Availability:

- **Corn:** 120-150 bu/acre
- **Cereal rye alone:** 1,200-1,800 DM/ac (65% utilization)
- **Interseeded cereal rye and corn stover:** 3,200-5,000 lbs DM/acre



Predicted extension of grazing season based on these forage yield values:

- 30 beef cows at 1200lbs/each, 2.5% BW DMI, on 20 acres with 65% utilization – **73 additional grazing days**
- Same herd with 50% utilization – **55 additional days**



Potential Benefits:

- Keeps animals out of confinement for longer in the season
- Reduces feed purchase/storage costs
- Cover crop benefits, even in hard-to-drill areas: improved soil carbon, reduced erosion nutrient loss, suppressed weeds, supplies additional forage
- Potentially greater corn yields
- Less crop rotation needed

Potential Drawbacks:

- Additional grazing management
- Potentially greater fertilizer required
- Permanent fences around crop fields
- 4-row units require many turns, could potentially cause headrow damage

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