FACT SHEET

Interseeding / Companion Cropping
Results from FARMS producers

FARMS producers in CO, KS, and NE are interseeding to graze after harvest, to raise multiple grain crops for seed, to improve cover, residue, and disease control, and to reduce inputs. Here are results from some of their experiments.

1. Interseeded Wyoming winter peas into cereal rye. They were harvested together, cleaned, and both sold for seed. He drilled a two-thirds rate of rye at 1.25” deep, and the peas at 2.5” deep on a 10 degree angle. The peas vined up the rye instead of being bushy and their pods were smaller, and the rye helped them overwinter. The rye yield was the same as adjacent monocrop rye, but the peas didn’t yield much after the dry hot summer. Getting the rates and spacings right on these type of experiments is important, and a continuous challenge.

2. Interseeded buckwheat, mustard, and radish into soybeans to cover bare soil, keep a living root, attract beneficial insects, and prevent erosion on the hillsides. The seed was all mixed together in the drill box and drilled on 7.5” centers. This creates a somewhat uneven distribution, but gets the job done. The soybean yield was equivalent to the neighbor’s, without having to spray for armyworms, possible due to the huge population of beneficial insects in the field. This will expand onto more fields next year.
Covers into corn: Producers 3, 4, 5

3 Interseeded covers into 30” irrigated corn at v3/v4 with a modified VALMAR air seeder. Covers seemed to grow okay but the final biomass was somewhat disappointing, even where the corn got hailed out and the canopy was more open. Cereal rye did better than annual; red clover, forage collards, flax and buckwheat grew well. The landlord got 45 animal grazing days per acre, but the cattle overgrazed the covers (esp cereal rye) before cleaning up the cornstalks. Forage oats were planted straight into the covers, with no need to terminate. Next time he wants to interseed earlier – just a couple weeks after planting corn.

4 Interseeded covers into 30” irrigated and dryland corn at v5/v6. Wanted to have grazing after harvest. Used a 3-point disk drill, dropped every 3rd row, and planted 2 rows of covers on 10” spacing. Did a one-third rate of clovers, flax, buckwheat, turnip, African cabbage, okra, and cowpeas, rye (in 2020) and wheat (2021). On 8” of moisture in 2020, the covers didn’t do well after the canopy closed. Some rye and clover survived, but overall it was disappointing biomass the next spring. Buckwheat, okra, and clovers seem to do fine under the canopy. Brassicas went dormant under the canopy but thrived after corn harvest. The covers did much better in 2021, but next time he wants to eliminate cereals and plant small species much earlier (clover, flax, and radishes at v2).

5 Interseeded covers into 30” and 60” irrigated and dryland corn (at double the population in the row). The goal was to increase rotation diversity and graze. One row of covers was planted between corn rows with an old Hiniker air seeder. The 60” corn yield was similar to 30” (irrigated?dryland?). In the covers, the cowpeas and buckwheat did better than the gaur beans, rapeseed, annual ryegrass, cereal rye, or winter peas. The biomass of the cover crop was 10x in the 60” irrigated corn, and the forage quality was premium alfalfa hay. But even 30” interseeded covers bring diversity and a living root over winter! He wants to keep trying this, find covers that will overwinter better, and thrive after the canopy opens up at harvest. The photos below are from September.
Pulses: Producer 6

Interseeded flax into chickpeas to control Ascochyta in the chickpeas (an aggressive fungal blight). He planted a 1/4-rate of flax using the midrow bander of a Bourgault air seeder, even though it doesn’t have a packer on it (it’s meant for fertilizer). Both crops yielded well, and were easy to separate in the cleaner. His agronomist scouted vigilantly and repeatedly for Ascochyta in the field and never found it. Next he’ll try adding buckwheat to the mix as a third intercropped component.

Perennials: Producer 7

Broadcast clovers and alfalfa into wheat to have a continuous living root until the next crop. He chose broadcasting because the wheat was drilled into soybean stubble, and he didn’t want to chop up the stubble any further. Emergence and establishment was a challenge, but it did emerge patchily over the next year, as drill and grazing disturbance created better seed/soil contact. He’s hoping these perennials live for years on this field, fixing N for subsequent crops, and providing additional biomass for grazing.
Diverse covers in corn (NE)
Peas intercropped with rye (CO)
Diverse covers in wheat (KS)

Flax in chickpeas (CO)
Mini pumpkins and diverse covers into milo for grazing (KS)

Seed cleaning (CO)

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