

Establishing Cover Crops in Corn

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Key points:

1. Establishing cover crops in corn can be challenging:
 - a. The height of the corn crop when seeding the intercrop might otherwise be optimal makes seeding difficult
 - b. Corn shades the developing cover crop
 - c. Corn is a heavy water user and can limit soil moisture for cover crop development
 - d. Corn produces large quantities of stover that may impact growth after corn harvest.
2. Cover crop biomass production, when intercropped in corn, was limited in the fall, regardless of management.
3. Of the species tested, the best performing cover crop varied between rye and camelina, depending on the environment and insect predation. Radish was not found to be adapted for intercropping with corn.
4. The best time for seeding the intercrops was at the R4 stage compared to the V7 stage of corn.
5. Drilling the cover crops was often better than broadcasting, but not always. Broadcasting may still be considered a viable method of establishing rye or camelina, but not radish.
6. Wider row spacing and earlier maturing hybrids are more favorable to cover crops than 22 inch rows and full season hybrids. Because these practices are often lower yielding, the benefit may not be worth the cost in terms of corn yield
7. From mid-July, more than 80% of the photosynthetically active radiation is intercepted by the corn before reaching the cover crop canopy.
8. Though moisture levels during cover crop establishment can limit germination and growth, the limitation of light is probably more restrictive than moisture.