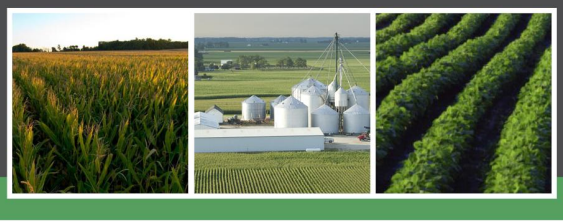

Cover Cropping for Pollinators

Native and honey bee populations are important pollinators of agricultural crops. Flowering cover crops can provide valuable forage for bee populations as well as benefit crop productivity. Proper selection and management of cover crop species can benefit soil health, crop productivity, and pollinator conservation.

WHAT TO CONSIDER

Incorporating cover crops into an annual crop rotation can be used to manage soil fertility, weed suppression, and erosion control. Additionally, cover crops with a flowering stage have the potential to support beneficial pollinator insect communities. Honey bees and native bees are considered important agricultural pollinators and both groups of bees share many of the same requirements to thrive.

While most of the world's staple crops (corn, wheat, rice) are wind pollinated, it is estimated that one in every four mouthfuls of food and beverages consumed is dependent on pollinators.[2] Growing flowering cover crops during fallow periods in the crop rotation is a multi-purpose strategy that may benefit crop productivity as well as the local pollinator community.

YIELD IMPACT

With appropriate plant selection and proper management, flowering cover crops can fulfill their original purpose as a conservation practice while providing valuable forage for bees.The plants that best fit a farm's needs will vary by location and purpose. Different cover crops have different strengths (Table 1). Flowering broadleaf species are a must when selecting cover crops for pollinators. Grass cover crops do not provide nectar and their pollen typically has lower protein content than the pollen of broadleaf plants, making them only marginally attractive to bees. A flowering plant/grass blend may be a solution where a grass crop is needed to achieve other management priorities.

Table 1. Cover crop uses and examples of suitable pollinator-friendly plants.[2]

Conservation Uses	Pollinator-Friendly Cover Crops
Nitrogen Source	Alfalfa, white clover, red clover, cowpea, lupin, partridge pea, sunn hemp, vetch
Nitrogen Scavenger	Phacelia, canola, sunflower
Erosion Control	Canola, cowpea, crimson clover, white clover
Forage Value	Crimson clover, canola, white clover, forage radish
Weed Management	Buckwheat, canola, cowpea, sunn hemp, sunflower
Nematode Management	Canola, other brassicas and mustards
Reducing Compaction	Canola, radish, lupines, brassicas and mustards

Figure 1. There are approximately 4,000 species of native bees in North America, hundreds of which contribute to the pollination of farm crops.[2]

MANAGEMENT OPTIONS

The cover crop species selected will depend on the timing of the cover crop in the cropping system. When utilizing cover crops for pollinator benefit, it is also important to understand the limits of a window between main crops and if a cover crop is likely to flower before the next crop is planted.

The chosen cover crop should be adapted to local conditions. Monocultures of flowering cover crops will be more attractive to bees at peak flower than a neighboring cover crop mixture. However, multi-species cover crop mixes are a simple way to provide maximum potential benefit for soil health, crop productivity, and pollinator conservation.

Sources

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