

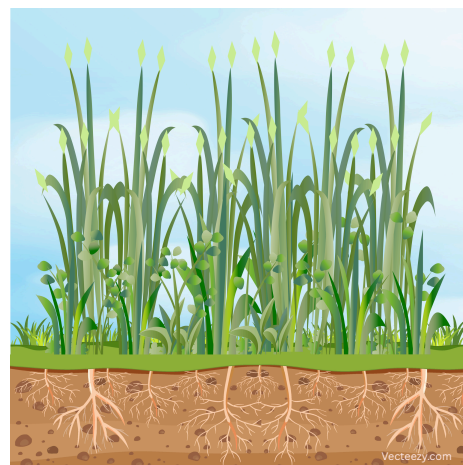
Cover crop mixtures: a guide to cover crop blends



By combining species with different growth habits and functions, cover crop mixtures can enhance soil health, suppress weeds, scavenge or fix nitrogen, and provide forage for grazing. This factsheet provides key considerations for selecting, designing, and managing cover crop mixtures

Why Use a Cover Crop Mixture?

- Cover crop mixtures are able to achieve multiple goals in one planting
 - Breaking up compacted soil layers
 - Increasing soil organic matter (SOM)
 - Scavenging leftover nutrients
 - Suppressing weeds
 - Supporting pollinators
- Mixtures tend to provide more consistent biomass production across different years, making them a more resilient option.
- Mixtures adapt better to variable field conditions.
 - In non-uniform fields (with different soil type, slopes, or moisture availability), at least one species in the mix is likely to establish successfully.



What Goes Into a Cover Crop Mixture?

Grasses [1]

Nutrient scavengers
Erosion control
High biomass production
Increase soil organic matter

Legumes [1]

Fix nitrogen
Support beneficial insects and pollinators
Increase soil organic matter

Brassicas [1]

Reduce soil compaction
Improve soil structure
Increase forage digestibility
Suppress weeds

Grazing Mix

Brassicas + Grasses

Diversity Mix

Brassicas + Legumes + Grasses
Increase microbial diversity

Soil Build/Health Mix

Legumes + Grasses



Mixtures can include as many species as you would like, however it's best not to overdo it; having a lot of species can increase competition and increase costs.



Resources and Practical Insights

Resources:

MCCC Decision Tool: The Midwest Cover Crop Council offers an easy-to-use online tool that helps farmers choose cover crops suited to their region and goals [2].

SmartMix Calculator: Green Cover Seed's calculator lets farmers build personalized cover crop mixtures based on their goals, soil conditions, and management preferences [3].

Cost Ranges for Mixtures

Seeding Costs: \$35–\$70+ per acre

Termination Costs: Vary. May be negligible if coinciding with pre-planned herbicide applications or species that winter-kill [4].

Factors influencing costs include species, goals, planting methods, and seeding rates.

□ Practical Recommendations and Considerations

- **Seeding Method**: Cover crop seeds vary in size, with optimal planting depths ranging from about 0.25 to 1.5 inches. To account for this, consider making two passes or selecting a compromise depth. When broadcasting, be mindful of seed size and weight to prevent uneven distribution.
- **Seeding Rates**: Do not use full monoculture rates for every species in a mix (costly and excessive). Depending on the number of species in the mixture, consider the following:
 - Grasses: seed at $\frac{1}{4}$ – $\frac{1}{2}$ of their monoculture rate (likely will outcompete other species [5]).
 - Legumes: reduce somewhat below the monoculture rate (i.e., $\frac{2}{3}$).
 - Brassicas: reduce somewhat below the monoculture rate (i.e., $\frac{2}{3}$).
 - If multiple crops serve the same goal, reduce each one's rate accordingly.
- **Management**: When selecting species for your mix, consider any residual herbicides from the previous cash crop, as they may affect cover crop emergence.
- **Termination**: Can be tricky; different species in a mix may grow or mature at different rates, leading some to go to seed before others. It's important to evaluate each species to choose the most effective termination method and timing.

Pre-made mixes from seed companies are convenient but may not match specific goals. However, custom mixes offer flexibility but require more planning.

REFERENCES

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