

HOW TO SUCCESSFULLY PLANT GREEN

Planting cash crops into a living, green cover crop prior to terminating the cover crop.



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Planting green refers to planting cash crops into living cover crops instead of the more common practice of planting into desiccated cover crops killed with an herbicide a week or more beforehand. Common reasons many farmers “plant green” (or “grow green”) include to extend the soil conservation and soil health benefits of cover crops while mitigating the challenges of wet soil and slug damage associated with pairing cover crops with no-till.

1 FIELD /CROP SELECTION

START WITH SOYBEANS: Start out with a small field slated for soybeans. Research has shown that soybeans are more adaptable to this practice; soybeans tolerate being shaded and by starting with a legume crop minimizes potential challenges with nitrogen tie-up by mature cover crops.

HEAVY WET SOILS: The practice is best suited to high-clay soils that are slow to dry. Actively growing cover crops will lap up rainfall, drying wet soils faster and enabling farmers to plant earlier.

SOILS WITH A LONGER HISTORY OF NO-TILL AND COVER CROP. Soils should be accustomed to no-till with a healthy population of soil microorganisms that will aid in the breakdown of cover crop residues and the release of nutrients.

2 COVER CROPS

SELECTING COVER CROP SPECIES: Select cover crops that are relatively simple to kill using herbicide and are slower to mature and enter reproductive phase. (Cover crops in reproductive phases are more difficult to terminate with herbicide.)

- **CEREAL RYE** is very easy to terminate and can accumulate a LOT of biomass quickly. Be aware that it can quickly reach heights of over 5-feet tall in the spring. A mature cereal rye cover crop will also have a high Carbon to Nitrogen (C:N) Ratio. The residues will be slow to break down and will tie-up soil nitrogen during the beginning of the growing season.
- **ANNUAL RYEGRASS** will mature much slower than cereal rye. The vegetation will be shorter, easier to plant through, and will have a smaller C:N ratio making it quicker to decompose. Annual ryegrass’s fibrous root system makes it the best cover crop from breaking up compaction. However, annual ryegrass is notoriously difficult to terminate and can quickly become a weed. Be sure to use a FULL rate of glyphosate applied during warm, sunny conditions.
- **CRIMSON CLOVER** is the easiest legume to terminate through “planting green”. It can fix substantial quantities of atmospheric nitrogen, particularly when allowed to mature to flowering-stage

REDUCE SEEDING RATE: Reduce cover crop seeding rate by 30%, especially if applying manure. Also reduce seeding rate for cover crops planted very early (August and early September)

3 OUTFIT PLANTERS

Use a planter, rather than a drill, for establishing soybeans. Planters are better suited to planting through thick residues.

- **ROW CLEANERS:** Row cleaner will wrap with residues. Strongly consider either installing a floating row cleaner with swept back to shark-toothed tines or remove the row cleaners all together.
- **OPENING DISKS:** It is crucial that opening disks be sharp with a well defined bevel! Replace opening disks at least every 50 acres (per row unit) to make sure they are sharp enough to cut green residues.
- **CLOSING WHEELS:** Use short spiked closing wheels. These are less prone to wrapping but should also be able to adequately close the trench. Smooth iron wheels are also effective on loamy and sandy soils.
- **FERTILIZATION SYSTEMS:** When planting green, it is especially important to apply nitrogen near the seed. A thick, heavy cover crop can tie up soil nitrogen early in the growing system. Outfit planters to be able to either band fertilizer beside the seed or apply pop-up or starter in the seed trench.
- **GPS SYSTEM:** When planting green, particularly through thick covers, it can be nearly impossible to see row markers. Consider using a GPS system to keep track of where you have planted.

4 PLANTING

When starting out with planting green, aim to plant cash crops when cover crops are between 5” and 10” tall.

- **PLANT DEEP:** Consider planting a little deeper to cleanly cut the cover crop residue and avoid “hair-pinning” when planting corn.
- **STARTER FERTILIZER:** As cover crop matures, it contains less nitrogen per unit of carbon. As a result, mature cover crop decomposes slower and ties up soil nitrogen. To compensate, be sure to add extra starter N if planting corn or other non-leguminous crops. Anticipate being able to cut back on side-dress N application later in the season.

5 HERBICIDE SELECTION AT RATE.

Most importantly, make sure you burn down the cover crop within a few days after planting green, so that the cover crop will die as quickly as possible, especially when starting out with this new practice. You do not want your cover crops competing with your cash crop for light, moisture and nutrients. A full rate of glyphosate, on a sunny, warm day should be adequate to terminate cover crop.