

Preparing for No-till Planting into CRP Land

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As CRP contracts expire, many producers are considering bringing the land back into crop production. In order to conserve soil and water, and to keep the soil building benefits of idling the land for ten years, no-till is the best production system to use. Tillage will destroy the soil structure that has built up from the freeze-thaw and wetting-drying cycles. In addition, it will plant surface weed seeds and stimulate seeds which have been buried for the last ten years. Tillage will also fluff and dry the soil, making it difficult to establish a uniform crop stand.

To be successful, and in order to conserve soil moisture, producers have to plan ahead and kill the grass in advance, usually the year before planting the crop. Herbicides can be very effective in killing the grass when applied at the proper growth stage. The timing is different for cool season grasses and warm season or native grasses. The key is thorough and complete coverage when the grass is actively growing so the herbicide will translocate to the growing points. As with any perennial, the best time to apply the herbicide is late summer or early fall while the grass is storing energy in the root system.

Depending on the stand and species of the grass and the amount of CRP maintenance performed, there could be considerable dry matter accumulation in fields coming out of CRP. This residue provides erosion control by absorbing raindrop impact, acts as a mulch to reduce evaporation from the soil surface, and helps build organic matter. Producers may try to kill the grass and reduce the amount of residue with tillage. However, it may take several tillage trips to kill all the grass and perhaps not enough residue will remain after tillage for effective erosion control. To maintain the benefits of residue management, no-till is the logical choice, especially on highly erodible fields.

In no-till, uniform residue distribution is a must for success. If tillage is performed, large amounts of partially incorporated or non-distributed residue can cause problems with subsequent field operations and establishing a crop stand. In either case, depending on the grass species and stand, mowing or haying the grass the year before bringing the land back into crop production will make it easier by reducing the amount of residue or improving the distribution. Even though it reduces the amount of residue, burning the residue is not recommended. Burning will not kill the grass and seldom does it reduce the mat of residue which may be at the soil surface.

When mowing, a flail shredder, with good suction uplift, will cutup and distribute the residue most evenly. Too often, rotary shredders leave windows of residue behind them. Sickle bar mowers cut off the grass but do not chop the residue into small pieces. The mowing should be conducted several weeks before spraying to reduce the dry matter and to encourage new growth, making it easier to kill the grass with herbicides. The mowing height should be between six and twelve inches, to reduce the possibility of creating a mat of

residue on the soil surface. The standing residue remaining won't have to be cut with planting equipment and offers some wind erosion control potential.

Planting equipment needs to be adjusted properly for no-till (see related article *Planting Equipment for No-till*). "Spider wheel" or fingered row cleaners could be used to move the residue out of the row area, especially if the residue is matted. Unlike disk row cleaners, the spider wheels can be set to move only residue and not disturb the soil. Downpressure springs may be needed to transfer weight to the individual row units to make sure that the seed gets down through the residue and into the soil to the proper depth. In addition, there needs to be enough total weight on the toolbar for the springs to act against and to keep the seed metering drive wheels from slipping.

Proper timing of herbicide application and uniform residue distribution are two of the keys for success when no-tilling into fields coming out of CRP. With appropriate weight, downpressure, and adjustments, most current planters and drills will perform well when no-tilling into these fields. Haying the grass the year before no-till or shredding the residue will reduce the amount of residue. Fingered row cleaners can be used to further reduce amount of residue directly in the row.

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