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The attached Technical Note is on Renovating Pastures with Glyphosate Tolerant Soybeans.

Enclosure

# Renovating Pastures with Glyphosate-Tolerant Soybeans

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## **Background**

Pasture renovation is expensive because of lost production, costs for eliminating existing vegetation by tillage or herbicides, and direct replanting costs. Reducing costs, reducing risk of failure, and producing income from pasture during renovation can significantly increase the profitability of improving pastures. No-till planting grasses or grass/legumes into soybean stubble reduces tillage and weed control costs during establishment and has proven to be one of the best methods of establishing grasses and grass/legumes.

Technology developed for soybean production can be used to renovate pastures. Roundup® Ready™ (glyphosate; N-(phosphonomethyl) glycine) technology can be used to eliminate existing vegetation, produce income from soybeans during renovation, and prepare a good seedbed for replanting areas to forages.

The goal of pasture renovation is to establish improved forages better suited to your needs. The first step is to eliminate undesirable vegetation with non-selective herbicides or tillage. Use of non-selective herbicides is recommended to conserve soil moisture, reduce erosion, and reduce energy costs. Planting glyphosate-tolerant crops allows for the use of glyphosate after crop emergence in order to kill unwanted vegetation during the growing season. This ensures that all vegetation is killed prior to planting and provides an excellent weed-free seedbed for grass establishment. Soybeans are preferable to corn because soybeans provide residual nitrogen, produce an excellent seedbed for no-till planting, and generally leave sufficient residue for erosion control.

Mention of trade names or commercial products in this publication is solely for the purpose of providing specific information and does not imply recommendation or endorsement by the USDA NRCS.

## **Guidelines (steps) for Successfully Using Glyphosate-Tolerant Soybeans for Pasture Renovation** (consult the appropriate chemical company and the *“Guide for Weed Management in Nebraska”* for specific herbicide treatment recommendations)

1. Hay pasture in the early summer or use a prescribe burn in early spring to ensure adequate regrowth the year prior to soybean planting (grazing may be substituted for haying assuming grazing is deferred early enough to allow adequate regrowth). Haying or prescribed burning is recommended over grazing because all residues are removed at a uniform height/time promoting even regrowth resulting in better herbicide efficacy.
2. When adequate new green growth occurs (usually 6-8 inches depending on the type of vegetation) apply glyphosate at approximately 2 quarts per acre. In some situations tank mixes of more than one herbicide are recommended depending on

the type of vegetation to be killed. For more specific information refer to the *Guide for Weed Management in Nebraska: CRP/Sod Response to Selected Herbicides* for more specific recommendations (<http://ianrpubs.unl.edu/weeds/ec05-130.pdf>). The type of herbicide(s), treatment time, additives, regrowth needed, haying times, and rate per acre will be dependant on site conditions and the type of vegetation to be killed. **NOTE:** On irrigated sites or when soil moisture for the subsequent soybean crop is not a concern, it may be possible to skip this step and wait to apply glyphosate until after planting soybeans (refer to figure 1).

3. No-till plant soybeans directly into sod (refer to figure 1). Plant early maturing soybean varieties if cool season grasses and legumes are to be planted in Late August
4. Monitor the site and spray new growth with recommended rate of glyphosate after emergence of soybeans. Continue monitoring the site for undesirable plants and apply subsequent herbicide in spot treatments as needed throughout the growing season.
5. If unwanted vegetation is still present after soybean harvest, a late summer or fall application of glyphosate will be needed to completely kill all vegetation.
6. After all vegetation is completely killed, no-till plant desired grasses or grass/legumes during the dormant seeding period or the following spring. If an early maturing soybean variety is planted, it may be possible to plant cool-season grasses and legumes in late August following soybean harvest. Refer to the [Pasture and Hay Planting \(512\) Specification](#) or the [Range Planting \(550\) Specification](#) for planting recommendations and dates.
7. Pre-emergent or post-emergent herbicides are recommended when planting certain grasses or legume mixtures the following spring. Refer to the *Guide for Weed Management in Nebraska* for specific herbicide recommendations for post or pre-emergent weed control for grass and/or grass/legume plantings.

### **Operation and Maintenance**

If noxious weeds are present it may be necessary to plant glyphosate-tolerant soybeans or corn for 2 years to ensure that all noxious weeds are satisfactorily killed.

After establishment of grasses, proper grazing management, fertility, and weed management will optimize the productive potential and life-span of new pastures. Refer to the [Pasture and Hay Planting \(512\) Specification](#) or the [Range Planting \(550\) Specification](#) for operation and maintenance requirements.

**Reference:** “Renovating Pastures with Glyphosate-Tolerant Soybeans”  
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Figure 1. Glyphosate-tolerant soybeans were planted into big bluestem pasture (top) and Tall fescue and Kentucky bluegrass mixtures (bottom). Both were sprayed with glyphosate after soybean emergence.