Strategies for Renewed Forage Production

Bruce Anderson
Extension Forage Specialist
University of Nebraska-Lincoln

Six dollar corn. Fourteen dollar beans. Bring out the plow and disk. Tear up the hay ground, pasture, and CRP. Let's make some real money.

Sound familiar? All across the Corn Belt, farm land previously devoted to forage production was rapidly converted to row crops to take advantage of attractive grain prices and potential profits.

What happens, though, when or if corn drops to four or five dollars per bushel and beans go below nine to ten dollars? Costs of production, at least for seed, fertilizer, and fuel, are likely to remain high, quickly eating away at profit margins, if there is any profit at all.

However, livestock profits also have improved during this same time despite high grain prices. And the forages that feed many livestock have increased in value due to both the rising price of all ag commodities as well as a reduced forage supply from fewer production acres.

So maybe returning some of these converted acres back to forage production makes sense. What's the best way to do it?

Before making the actual conversion, two important decisions must be made. First is to decide what forages to plant and second is to develop a row cropping system that is most likely to enable replanting of forages to be successful.

What to plant

The natural tendency is to plant the same type of forage that was growing on the land prior to conversion to row crops. However, sometimes one of the reasons why this forage was not as successfully profitable as desired is because it was not the best choice in that situation. It may not have been well adapted or it might not have met the specific needs of that producer. In either case, selecting the most suitable forage to replant is critical for the overall success of the forage/livestock operation.

Determination of the best forage to replant usually depends on the type of livestock operation and what other forages currently are available to support that operation. For example, many cow-calf operations in the Corn Belt have abundant spring pasture from cool-season grasses like smooth brome or tall fescue. However, in July and August these pastures have low quality and grow very slowly so calf gains suffer, cows may lose weight, or conception rates are poor. To plant more brome or fescue would do little to overcome this summer slump. Native warm-season grasses like big bluestem and indiangrass would be much better choices in these situations.

Similarly, very few pastures have adequate legumes to improve animal performance and reduce nitrogen fertilizer needs. Since legumes can be difficult to add to existing grass pasture, it is better to add them to the seeding mix when establishing new pasture.

Alfalfa often is the clear choice as a hay crop, but a pure stand may not be the best choice. Alfalfa mixed with grasses like orchardgrass or endophyte-free tall fescue usually is a better option if the hay will be used on-farm for beef cattle, both for wintering cows as well as growing yearlings. Mixed hay dries more rapidly after cutting, bales shed water more effectively, animal diets have a better energy:protein balance, and weeds invade hay fields less rapidly. Tonnage remains about the same. Nonetheless, if the forage is destined to be used by lactating dairy cows, pure alfalfa usually is best.

Annual forages should not be overlooked, either, as options for these acres. Summer annuals like sorghum-sudangrass or pearl millet can provide abundant summer grazing or hay. Winter rye is an excellent source of very early spring grazing. Winter wheat can be used similarly or may be harvested later for grain if it is not needed when spring grazing time arrives. Oats and brassicas make excellent fall and early winter pasture. The greatest advantage of annual forage may be flexibility for the farming/livestock operation. It is easy to plant something different the following year if forage needs change or row crop prices become more attractive.

Cropping system management

Most failed forage plantings are due to inadequate or improper preparation. Hasty decision making often results in poor soil conditions for successful establishment.

Land can and should be prepared for forage plantings several ways while still being used for annual row crops. One of the most valuable preparations is application of lime, if needed, to neutralize soil acidity. Lime works slowly, taking as much as a full year to adequately raise the pH of acid soils to a level most desirable for various forages, especially alfalfa. It also works best if incorporated into the soil rather than left on the surface. By applying and incorporating lime prior to planting the final year of row crops or immediately after its harvest will give the lime adequate time to neutralize undesired soil acidity.

Also take care in selection of herbicides during the final year of row crops. Glyphosate-tolerant crops have reduced herbicide carryover risks but herbicide-tolerant weeds and other weed control practices sometimes result in the use of herbicides that can prevent establishment of certain forage crops.

Still, control of weeds during row crop years prior to planting forages is critical because weed pressure during the year of seeding forage crops is one of the two greatest hazards to successful establishment. The other big hazard is poor seedbed preparation. Tillage to reduce row crop residues that may inhibit proper operation of forage seeding equipment often result in

seedbeds that either are too loose or have compaction zones that restrict root development of young forage seedlings.

In many situations, the best annual row crop to grow during the year prior to seeding forages is soybeans, especially if they are drilled and have excellent weed control. Undisturbed soybean stubble usually provides a near ideal seedbed in terms of firmness, water infiltration rate, and ease of emergence. Drilling the soybean seed tends to result in a more level soil surface than planting in rows. If weeds have been well-controlled in the soybeans, no-till planting of forages directly into the soybean stubble usually results in excellent seed placement and minimal soil disturbance, which thus discourages new weed development.

Stubble from small grains like wheat or oats also make fine seedbeds. Removing straw that might smother new seedlings or cause problems with effective drill operation will increase chances of success. Volunteer small grain seedlings or other weeds can pose a competition threat, however, so control practices should be planned. The forage species planted should be compatible with any expected herbicide uses.

Heavy corn residue can make establishing new forage stands difficult. Lengthy and multiple skips are common due to poor control of depth of seed placement. Even when good stands develop, fields often remain rough from the root balls in the old corn rows. Removal of some residue as with grazing of corn stalks will help. Tillage to smooth the field and/or reduce some of the residue also may be useful.

Conclusion

When new forage plantings are expected, their success can be affected greatly by prior cropping practices as well as the selection of what forage to plant. Planning and executing helpful preparatory steps will increase chances of successfully establishing a productive and profitable forage.