Pasture Seeding Timeline

Improving a pasture can take several years. This timeline can help you plan your pasture renovation.

Step 1: 6-12+ months before seeding

Soil test and lime/fertilize if required

Soil fertility. If you want your newly seeded grass to thrive, it must be planted into optimal soil conditions. A soil test will tell you if you need to apply lime and fertilizer. In very acidic soil, plant roots cannot take up nutrients as well, so even if you apply fertilizer, the plants may not get any benefit. Lime can take months to years to neutralize acidity deep in the soil, especially if it is being applied to the soil surface without tilling it in. It needs to migrate through the soil profile into the root zone before it will help your plants. Finely ground limestone will react faster than coarsely ground. If your pH is quite low and you need a lot of lime, apply it at least a year before seeding.

Step 2: 3-6 months before seeding

Evaluate current condition and decide if overseeding or reestablishing (starting over)

Evaluate pasture condition during the grazing season. A general rule of thumb is to completely reestablish your pasture (kill all vegetation and start over) if it contains less than 50% desirable plants, and to overseed if it contains 50-70% desirable plants. How can you determine these numbers? An easy method is called the "Equine Pasture Evaluation Disc", where you draw an arrow on the edge of a plastic disc and toss it randomly around the pasture. Every time it lands, you record what is under the arrow and then add up the observations after 20 or more tosses. See the fact sheet for more details and a chart to print and use.
Step 3: 1 week before seeding

Prepare pasture for planting: mow short or till/disc/cultipack

Prepare the pasture to be seeded.

If overseeding: Overgraze or mow the pasture very close before seeding. The existing vegetation will shade out new seedlings, so it is important to minimize that competition for your best chance of success.

If reestablishing: You have two options to kill existing vegetation: (1) use a non-selective herbicide or (2) till the soil, burying the plants. Using herbicide leaves a layer of plant litter that can act as a mulch to protect the soil and keep it moist while your new seed is germinating. Tilling allows you to prepare the seedbed to be optimal for planting seed; you want a fine, firm seedbed. To achieve this, after tilling you may need to disc and roll/cultipack the soil.

Step 4

Seeding. Weather permitting, the optimal time to plant cool-season grass seed in Pennsylvania is late summer (early to mid-August in cooler regions & late August to early September in warmer regions). This gives the seed a chance to establish in cooler temperatures with less competition from weeds than in the spring. The other time to plant is early spring (mid-April to mid-May in cooler regions & mid-March to mid-April in warmer regions) while it is still cool and moist. There will be more weed pressure and the seedlings will need to establish before it gets too hot and growth slows.

There are two methods of seeding: broadcasting seed and using a planter or drill. The key to a successful seeding is seed-to-soil contact; the seed should be buried no deeper than 1/8-1/4 inch. Therefore, broadcasting seed is less effective unless you can drag or harrow the seedbed afterward to pull some soil over the seed, then roll it again to pack down the soil. A no-till drill is an excellent alternative if you do not plan to till your pasture. It cuts a small slit in the soil, drops seed in, and then a press wheel closes the slit, all in one pass. These are sometimes available to rent at your county Conservation District. Make sure the drill can plant small seeds - a grain drill will not work correctly for grass seed. Additionally, confirm that the tractor and drill will fit through all gates and lanes on your farm.
Step 5: 6+ months AFTER seeding

Rest pasture so plants can establish strong root systems before grazing

Rest pasture. Many people do not realize that there is a crucial last step in seeding a pasture. The new grasses need time to develop strong, deep root systems before being grazed. If you graze too early, your horses can rip the plants out by the roots, or remove too much leaf area for the plant to recover. Seed is expensive - protect your investment! The longer you let the pasture establish, the stronger it will be and the better it will stand up to grazing. The pasture can be mowed while it is resting to encourage it to thicken. It can be difficult to rest pastures for this long on horse farms, so if you don't have anywhere else to turn horses out while the pasture is resting, consider reseeding only one or two pastures at a time.

Photo: This thick pasture has had a year to establish after seeding, by Laura Kenny

Other Considerations

Grazing Management

Once your pasture is established, it's time to graze. To keep your pasture productive for as long as possible, consider developing a rotational grazing system, which allows pastures to rest and recover for several weeks between grazings. Keep in mind that grasses do not have an infinite lifespan; even well-managed pastures decline over 3-5 years and need to be overseeded periodically.

Weed Control

You may have noticed that weed control was not included in the timeline, even though it may be an important part of your pasture improvement. There is no specific time to control all weeds. Many weeds can be controlled by maintaining a healthy stand of forages and regular mowing. For problem weeds that take over, chemical control may be warranted. Work with your local Extension office to first identify the weed and its life cycle, then pick an effective product and the correct time to apply it.

Conclusion

Improving a pasture is not a quick or easy task. It requires planning, money, and patience. However, if done correctly, you can enjoy a productive, nutritious pasture that provides plenty of feed for your horses. Make sure to keep up with basic pasture management practices throughout the year.

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