



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Hardin County Extension News Release

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Spring Forage Establishment

Hardin County – As soil temperatures rise and the chances of a morning frost decline, the window to spring-establish forages is open. In the spring, the combination of weather and plenty to do make planting opportunities scarce. To take advantage of those short planting windows the following are items to consider improving chances for a successful forage establishment this spring.

Soil Fertility and pH: Set up your forages with the best starting conditions you can by providing sufficient available nutrients and a soil pH that allows for those nutrients to be taken up. Follow the Tri-state Soil Fertility Recommendations (<https://forages.osu.edu/forage-management/soil-fertility-forages>). Phosphorus levels for grass are optimal in the 20-40 ppm range, while the range for legumes is 30-50 ppm. When it comes to potassium the optimal range is 100-130 ppm for sandy soils with a CEC less than 5, for loam and clay soils with a CEC greater than 5 the range is 120-170 ppm. No matter the nutrients in the soil, if pH isn't taken care of the forage will not be as productive. Most forages are productive at a pH above 6.0, but for alfalfa a pH of 6.5-6.8 is necessary, and if the pH is below that it is worth considering pushing alfalfa establishment to the late summer planting window and applying lime and maybe planting an annual grass for forage in the interim. As for nitrogen fertilization, an application of 30 lbs/A of starter nitrogen for pure cool-season grass stands or 10-20 lbs/A for grass-legume mixes can help with seedling vigor in low-nitrogen soils.

Weed Control: Prior to forage establishment, weed control is important to lower potential competition throughout the lifespan of a stand. Weeds can choke out and limit forage establishment and once a forage is established the option to control weeds is reduced. Decisions can be made in the selection of the field for establishment, to avoid areas where there are known weed problems. Chemical control can be used to manage a variety of weeds

but be sure to take extra caution to follow replant intervals. Another option for weed control and a good practice for particularly competitive perennial weeds is a tillage pass.

Prepared Seedbed: Planting into a well-prepared seedbed improves seedling germination and uniformity. For conventional systems, an ideal seedbed is firm, smooth, clod-free, and weed-free. As soon as soils are fit, prepare seedbeds for plants but be careful to not overwork soils depleting soil moisture and increasing the risk of soil crusting following a rain event. When seeding in a tilled seed bed, drills with press wheels are best to ensure good seed-to-soil contact. Excellent tools to firm soil to improve seed-to-soil contact are culti-packers and culti-mulchers. Where erosion is a concern, in no-till systems, or if there is residue over 35% the use of a no-till drill is recommended. No-till forage establishment is most successful in silt loam soils and soils that are well-drained. Timing for seedbed prep should be based more on conditions than the calendar, so be sure tillage equipment is ready to go early.

Seed Selection: Select a high-quality and reputable seed variety. Be sure that the seed used has good germination for a relatively recent germination test and that the variety is well suited to our region. The forage stand is a multiyear crop, so planting “common” seed (variety not stated) usually proves to be a very poor investment, yielding less even in the first or second year and having shorter stand life.

Companion Crops: Select forages and forage mixes that will meet desired production. Direct seedings without a companion crop will allow for 2-3 high-quality harvests in a successfully established seeding year. If looking to increase forage tonnage in the first year of a forage crop, a small grain companion crop can be successful. Companion crops have the added benefits of erosion protection and weed competition in susceptible fields. Important considerations with companion crops to not out-compete the perennial forage are: select an early maturing, stiff strawed variety so other forages are not smothered; plant companion small grains at 1.5-2.0 bu/A; remove companion crop as pasture or silage in the early boot stage to limit competition; and do not apply additional nitrogen to the companion crop.

Timing of Planting: The recommended spring planting window for forages in Ohio is mid-March to mid to late April for southern Ohio and late March to early May for northern Ohio. Warm-season forages and annual forages can effectively be established later in the growing season, reference the Ohio Agronomy Guide for species-specific planting windows. Timely planting allows for forages to be established before the environmental stresses of summer and allows forages to better compete with weeds. Later forage planting can struggle to establish lowering the potential yield and lowering quality due to a large presence of weeds. If spring planting is delayed, consider planting a summer annual and waiting to establish a perennial forage in

August. With the warmer than normal February and March we had this year, soil temperatures and spring green up are nearly two weeks ahead of schedule. This means weed germination is also early and we should plan accordingly, as May 1 might be too late this year.

Seeding Rate: Forage seeds can vary in size, shape, and whether they are coated. Getting an accurate seeding rate can be difficult, particularly with mixes. Take the time to calibrate seeders ahead of time. The seeding rate is important to establish a uniform stand that is productive and competitive with weeds. An excellent resource for calibration is the video “Drill Calibration” at <https://forages.osu.edu/video/>. If mixing grass seed with alfalfa seed, have it professionally blended by the seed supplier if possible, and ask them for any information they may have on drill settings and seeding rates. If you cannot have it pre-blended, consider planting it separately to ensure the accuracy of seeding rate. If you do plan to drop mixed seed through a drill, calibration is a must and will vary, so plan accordingly and be sure to test your drop rate.

Seeding Depth: Forages are small-seeded crops, so plant depth is very important for uniform establishment. A seeding depth of 1/4 to 1/2 inch deep with good seed-to-soil contact is optimal for most forage species and soil types. In sandy soils, a depth of 1/2 to 3/4 inch may be appropriate. Be sure to check the actual planting depth when first planting and if any field conditions change. Take particular note in no-till fields and with no-till drills to ensure seeding depth accuracy. In our experience, visibility of up to 25% of the seed on the surface, or in the seed slot but uncovered behind the drill indicates that most seed are at the proper depth. Tender legume seedlings will have a very hard time reaching the soil surface if they germinate too deep, especially on heavier soils where any amount of crusting may take place following planting.

Post Planting Scouting: The first two months of a newly established forage are critical for the longevity and long-term production of a stand. Early weed competition is most detrimental to establishing a forage stand. When looking to control a weed problem post-emergence be sure to double-check the label to not harm forage seedlings. A similar concern is present with insect pests like potato leafhopper damaging legumes as soon as late May to early June. Even in established forages, it is best to scout for pests yearly when each pest is seasonally present.

Harvest Management: Unless there is weed or pest pressure, it is ideal to delay the first harvest of a new seeding until early flowering for legumes. For the first harvest of pure grass stands, harvest depends on stand vigor and weather conditions. Grasses for the most part establish slower than legumes and 70 days after planting is generally the timing for the first harvest. If the harvest method is grazing take extra precautions to limit trampling damage. If there is a weed problem, clipping may be necessary to prevent weed seed production.

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