

# THE FORAGER

*Agronomics with livestock in mind!*

## LOOKING & PLANNING AHEAD!

In much of the country there is a blanket of snow covering the fields, which only a few weeks ago were growing or harvested. Even though winter has only recently started, it is prudent to consider what will be needed to get "off to a good start" when the fields begin to grow once again.

Alfalfa and grass fields can present their own challenges, depending on the winter conditions we experience. However, it is critically important to plan ahead and ensure all aspects of field management are considered in order to obtain a quality harvest for hay or haylage. It is often helpful to revisit some of the "basics" to ensure quality is first and foremost in the forage program. Here are some considerations that will be helpful.

High yielding, high-quality alfalfa often provides the foundation for profitable feeding programs for dairy and other livestock. Thick, vigorous stands are essential for high yields. Obtaining such stands is dependent on proper seeding practices, along with favorable seedbed and environmental conditions. The key factors for obtaining thick, vigorous stands are proper soil pH and fertility, seedbed preparation, crop sequences that avoid herbicide residues from previous crops, selection of high-quality seed that is also appropriate for the specific geographic/climatic location, seeding at the right time, good seeding techniques with equipment precisely adjusted for seeding rate and depth, and adequate control of weeds and insects.

Alfalfa stands continually thin over time and do not reseed naturally, so establishing an excellent stand is critical for long stand persistence. Preparation for alfalfa establishment should begin at least 1 year in advance; but ideally as much as 2 years prior to the actual seeding, especially for no-till seedings.

**Site selection:** Alfalfa has the potential to develop a deep root system and is best suited to deep soils that allow the roots to extract nutrients and water from a large volume of soil. Alfalfa roots can penetrate deeper than 15 ft in unrestricted soils, which results in excellent drought tolerance. Soils in which rooting depth is limited by a shallow hardpan, shallow bedrock, or high water table are not well suited for alfalfa production. For alfalfa, soil depth should be at least 3 – 4 ft with no restrictions to root growth. In drought prone areas, soils less than 3 ft deep may not supply enough moisture for good alfalfa production and stand survival. Alfalfa grows well under a wide range of soil textures if no other conditions are limiting. Medium-textured soils such as loams, silt loams, and sandy loams are ideal. Light-textured soils, such as coarse sands, are too drought-prone for alfalfa, unless irrigated. Heavy textured soils, such as clays, are often too wet to support healthy roots. Also, winter heaving of plants is more common on clay soils. Alfalfa will grow well in rocky soils if the rock exists as fragments and does not form solid layers that inhibit rooting depth.

Soils for alfalfa must have good surface and internal drainage. For optimum production and long-stand persistence, alfalfa should be planted on soils that have a drainage classified as well-drained, moderately well-drained, or [somewhat] excessively well-drained. Alfalfa will not persist in poorly drained soils.

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Fungi that cause root rot diseases thrive in wet soils and can cause excessive stand loss. Alfalfa roots are sensitive to low oxygen levels, and will die if the soil is saturated or flooded for an extended period. Subsoil color can give clues about the drainage of the site. Gray or mottled soil colors suggest poor drainage. Brown or red soil colors suggest good internal drainage. Information regarding soil depth and drainage classification is provided in county soil survey manuals, which are available through a state or local Natural Resources Conservation Service. These often contain aerial photographs and soil maps that show the locations of soils on a particular farm. Soil survey information is a valuable tool in assessing a site for alfalfa production, as well as other crop considerations.

**Seeding at the proper time:** The two primary seeding periods for alfalfa are late February to early May and August to mid-October. Optimum dates vary, depending on location. Spring seedings are most common in the northern half of the U.S. because spring moisture is generally adequate. However, seeding too early in cold, wet soils can result in poor germination, seedling loss due to fungal diseases, and weak stands. On the other hand, seeding too late in the spring can cause seedlings to fail due to stress from high temperature and lack of moisture as well as weed competition. Late summer-early fall alfalfa seedings need sufficient moisture and there must be adequate heat unit accumulation before a killing frost. Consequently, these seedings should be made early enough to allow at least 6 weeks of growth before a killing frost. This means seeding July 20 to August 1 in areas such as the northern portions of MN, WI, MI, and NY and to as late as November 15 in parts of the southern U.S. For example... in PA each day planting was delayed after August 1 resulted in yield reductions of 158 lb/acre the following year. Late summer-early fall seeded alfalfa is more susceptible to Sclerotinia crown and stem rot during establishment than spring seedings. New seedings may be completely destroyed when conditions are favorable for this disease development. In fields where Sclerotinia has been or is likely to be a problem, spring seedings are best, or seedings should be made at the earliest possible date in late-summer so that seedlings are well established by the time infection would normally occur.

*(To be continued in next edition. Edited from an article by Hall - PSU, Jennings - Coop Extension/Little Rock, Shewmaker - U of ID/Twin Falls)*



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