

News Column

Stacy Campbell

Cottonwood Extension District, Hays

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Recommendations for fall planting of alfalfa

Alfalfa, often considered the “Queen of Forages”, produces high yields that are highly digestible and high in protein. Alfalfa is a very important leguminous crop for dairy and other livestock operations in Kansas. Late summer and early fall are often the best times to plant alfalfa in Kansas due to less weed pressure than spring planting.

Much of Kansas has seen above-average rainfall this summer and soil moisture within the profile is adequate, if not surplus, in many areas. Available moisture at planting is crucial for alfalfa establishment, but too much moisture can increase seedling disease incidence and reduce alfalfa nodulation and nitrogen fixation.

If soil moisture is available, growers in northwest Kansas can plant as early as mid-August. Those in southeast Kansas can plant in mid-to-late September. In other parts of Kansas, the optimal planting time is late August or early September. Producers just need to plant early enough to have three to five trifoliate leaves before the first frost.

Alfalfa is at least a five-year, or longer, investment and therefore it is crucial to ensure proper establishment. Some producers shy away from alfalfa because of its high establishment cost and risk of stand failure. In the end, however, it is relatively inexpensive, if amortized over the life of the crop.

Under proper management and favorable weather conditions, dryland alfalfa can produce 3 to 6 dry matter tons of forage per acre per year. Irrigated fields can produce 6 to 8 dry matter tons per acre per year or more.

When planting alfalfa, producers should keep the following in mind:

Soil test and correct soil acidity. Alfalfa grows best in well-drained soils with a pH of 6.5 to 7.5, and does not tolerate low soil pH. Lime can be used to increase soil pH. Ensuring appropriate soil pH levels prior to planting is essential, especially as lime is relatively immobile in the soil profile and the field will not be worked for the next 3-5 years.

Soil test and meet fertilization needs. Apply the needed phosphorus (P) and potassium (K) amounts according to soil test recommendations. Phosphorus fertilizer will be required if soil test P levels are below 25 ppm, and potassium fertilizer will be required if soil K levels are below 130 ppm. Even soils that test higher than these thresholds may need additional fertilizer. Small amounts of N fertilizer (15 to 20 lb/acre) as a starter at planting are beneficial for alfalfa establishment.

Plant certified inoculated seed. Ensuring the correct *Rhizobium* inoculation is crucial for alfalfa seedlings to fix available soil nitrogen to meet the needs of growing alfalfa for optimum production.

Plant in firm, moist soil. A firm seedbed ensures good seed-soil contact; therefore, use a press wheel with the drill to firm the soil over the planted seed. No-till planting in small-grains stubble will usually provide a good seedbed.

Do not plant too deeply. Plant one-fourth to one-half inch deep on medium- and fine-textured soils and three-fourths inch deep on sandy soils. Do not plant deeper than 10 times the seed diameter.

Use the right seeding rate. Plant 8 to 12 pounds of seed per acre on dryland in western Kansas, 12 to 15 pounds per acre on irrigated medium- to fine-textured soils, 15 to 20 pounds per acre on irrigated sandy soils, and 12 to 15 pounds per acre on dryland in central and eastern Kansas. Double drilling, with the second seeding drilled 45 degrees to the first planting can help ensure a good uniform stand. If using the double drill method, each pass should be planted at 50% for the total seed rate to be 100%.

Check for herbicide carryover that could damage the new alfalfa crop – especially when planting no-till alfalfa into corn or grain sorghum stubble. In areas where row crops were drought-stressed and removed for silage, that sets up a great seedbed for alfalfa, but may still bring a risk of herbicide damage.

Choose pest-resistant varieties. Resistance to phytophthora root rot, bacterial wilt, fusarium wilt, verticillium wilt, anthracnose, the pea aphid, and the spotted alfalfa aphid is essential. Some varieties are resistant to even more diseases and insects.

Purchase alfalfa varieties with a fall dormancy rating ranging from 4 - 6 for Kansas. Fall dormancy relates to how soon an alfalfa variety will stop growing in the fall and how early it will begin growing in the spring or late winter. Simply put, it would be better not buy a variety with fall dormancy of 9-10, which can be more suitable for California and regions where alfalfa can keep growing year-round under irrigation.

Find more information about growing alfalfa in Kansas in the *Alfalfa Production Handbook*. This publication is available on the web at: www.ksre.ksu.edu/bookstore/pubs/c683.pdf

Also see *Alfalfa Growth and Development*, available on the web at: <https://www.bookstore.ksre.ksu.edu/pubs/MF3348.pdf>