

10 Steps Toward Successful Alfalfa Establishment in the Ozarks

Tim Schnakenberg, MU Extension Agronomy Specialist, Galena, MO

1. Decide if you are up to the challenge.

Raising quality alfalfa is both time consuming and expensive but the return can be rewarding. Ask yourself these questions before making your decision: a) Do I really need to make my own hay or is purchasing good hay cheaper? b) Do I need a solid stand or a grass mix for the livestock I will be feeding? c) Have I gotten the ground in shape for alfalfa in advance? d) Do I have adequate equipment and time to harvest hay four times per year? e) Am I willing to fertilize heavy and often?



2. Select a site suitable for alfalfa

Ozark producers should seek at least five years of consistently good yields from stands they establish. To reach this goal it should be established on well-drained fertile soils. Pass over fields that have hard pans, excessive rocks, potential for erosion and poor drainage. Creek bottom fields that drain well are ideal for alfalfa. Upland fields can grow good alfalfa though with sometimes a shorter life span. Alfalfa should only be planted on fields that have good fertile conditions by the time establishment occurs. Due to autotoxicity issues, do not thicken up a stand by planting new alfalfa into an old alfalfa stand. The old stand should first be killed for at least one year.

3. Apply fertilizer and lime based on soil test recommendations

Alfalfa is a heavy user of plant nutrients, particularly potash. A soil test several months prior to establishment is important. It should have a pH in the field of 6.5-7.0 and high phosphorus and potassium levels at the time of establishment. A good phosphorus level will aid in developing young seedlings. Allow 6 months to a year to adjust the pH in a field. This adjustment is slow particularly in no-till fields. Though boron is an essential element for growing alfalfa it should not be used the year of establishment due to toxicity to seedlings. It will be important to maintain high nutrient levels throughout the life of the stand.

4. Seed alfalfa at optimum times of the year

Traditionally the late summer has been the ideal time to establish alfalfa. The reasoning was to provide six months of growing time prior to tough growing conditions next spring. The best time for late summer seedlings is late August through early September. More recently spring seedlings have been gaining interest to avoid a disease called sclerotinia crown and stem rot which tends to kill out young overwintering seedlings. The best time to plant alfalfa in the spring is mid-March to mid-April. No-tilling is the preferred approach to spring establishment.

5. Choose the right seeding method, rate and seed depth for your conditions

No-till alfalfa has gained considerable interest in the Ozarks. Clean seedbeds can still be appropriate for level fields free of large rocks where herbicides will be used. In this case rolling the field before and after seeding with a roller is highly recommended. For the majority of our conditions a no-till approach is suggested. It will maintain moisture longer in the seedbed and prevent some weed-seed germination. Regardless of planting method, the seed should be planted no deeper than 1/4" deep. Plant about 15 lbs PLS of inoculated seed per acre if seeking a pure

stand. Orchardgrass is an excellent companion choice if using it for beef or horse feed. If planting a mixed stand, sow 3 lbs orchardgrass and about 12 lbs alfalfa. If concerned about orchardgrass competing with young alfalfa, orchardgrass can also be no-tilled in at a later date once a good stand is made. Orchardgrass is a good choice because it persists well under frequent cutting. Nurse crops are not always recommended for alfalfa due to their competition to the stand. They are acceptable if sowing on an erosive soil and clean tillage is used.

6. Kill the existing vegetation prior to no-tilling seed

Competition must be eliminated prior to no-till establishment. If fescue is in the field a spray-smother-spray approach is recommended. For spring established stands this involves a glyphosate spray (at least 2 qt/A (41% glyphosate) in 10 gal water) in the fall when fescue has at least 6" regrowth and is actively growing. A smother crop such as wheat or rye can be planted. A second spray will be needed in early March prior to no-tilling. An even better approach is to start the previous spring and plant a summer smother crop such as sorghum sudan. This helps to insure fewer fescue seeds sprouting in the new crop.

7. Use an insecticide for fall alfalfa no-till establishment

Fall establishment into killed residue usually risks seedling damage from crickets. An insecticide treatment is recommended at the time of planting to avoid this problem.

8. Use proven inoculated seed

There are many varieties on the market today and the turnover of varieties available is fast. This has created difficulty in evaluating in test plots the latest varieties that hit the market. Make sure the companies providing the seed can present you with yield data in conditions similar to your area. Ask local producers and Extension staff about varieties that have worked well in the area. Choose certified varieties that are high yielding, winter hardy and resistant to bacterial wilt and phytophthora root rot and is designed for the use you will need it for. Inoculation is very important to insure that *Rhizobium* bacteria is present to fix nitrogen for the plant. Roundup Ready alfalfa is now available and is tolerant to glyphosate applications. This may be a good option of for high-managed stands and results in less competition the establishment year.

9. Control early weed infestations

Perennial and biennial weeds will persist in stands if not controlled before establishment. Weeds growing during the first 60 days are the most destructive. For clean-tilled seedbeds Balan, Eptam or Treflan HFP is effective on grasses and small seeded broadleaves but must be incorporated. Postemergence products such as Poast, Poast Plus, Select, Pursuit, Raptor, Buctril and 2,4-DB are available for all pure stands. Use Pursuit or Raptor in the fall for chickweed and henbit control on late-summer seedings. Grass-legume mixes have few chemical options.

10. Make sure you have an acceptable stand

The plant population will be as good as it will ever get during the first season. At four weeks after planting a stand count of 25-30 seedlings per square foot is considered a good stand. After the first growing season the plant population may be closer to ten plants per square foot.