

Plant Alfalfa in August

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Alfalfa can be seeded either in spring or fall in eastern Nebraska. Whether it is best to plant alfalfa in the spring or fall depends on two factors, predominant weed species and soil moisture. If the predominant weed species are summer annuals such as foxtail and pigweed, it may be best to plant alfalfa in the fall—provided the soil profile has adequate moisture for growth. This allows the alfalfa to get established with less weed competition and since it greens up in early spring, it will get a head start on the annual weeds next year that must come from seed when the soil temperature is right for germination.

If the predominant weed species are winter annuals such as pennycress or downy brome, spring planting may be best. The weeds can be killed with tillage or herbicides in early spring and then the alfalfa planted into a clean seed bed.

Pennycress, downy brome and other winter annual weeds are more dominant in former wheat ground since they have the same growth habit as winter wheat.

The best time for fall seeding alfalfa in eastern Nebraska is during the month of August, provided adequate soil moisture is available. Farmers sometimes wait until middle or late September to plant alfalfa. This is often too late because the plants do not have a chance to become established before the first killing frost. In Lancaster County, the latest alfalfa should be seeded in the fall is Sept. 10. If planting cannot be completed by that time, it is best to wait for another season.

Alfalfa seed needs to be planted 1/4- to 1/2-inch deep in fine textured soils and 3/4-inch deep in sandy soils for best germination. Regardless of seeding time, it is critical alfalfa be planted into a firm seed bed. Alfalfa seeds must have close contact with soil particles and soil moisture to insure rapid emergence. A firm seedbed also helps prevent seed from being planted too deep. Leave just

enough loose soil to cover seed after planting.

Dr. Bruce Anderson, UNL extension forage specialist, says if you can't bounce a basketball on the seedbed prior to planting alfalfa, the seed bed is too loose. Don't have a basketball? Walk across the seedbed with hard soled shoes, if your heel sinks in more than 1/2-inch, it is too loose. A good rain after tillage will firm the seedbed. Harrowing with the spikes set flat or rolling with a packer will firm seedbeds provided there is some moisture in the soil.

Complete tillage (disking) following row crops is okay if the soil is firmed up by either rain, sprinkler irrigation or packer-seeders. If the untilled soil surface is already smooth, no-till planters have been very successful. In fact, no-till seeding of alfalfa following small grain crops has become the trend among successful alfalfa producers.

Before seeding alfalfa, whether you



Alfalfa at the point of ready to cut.

plant in spring or fall, do a complete soil test. Apply and incorporate lime and phosphorus fertilizer, if needed, and be sure to inoculate the seed.

Buffer pH Indicates Amount of Lime to Add to Acid Soil

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Question: My soil test report shows a number for pH and another number for buffer pH. What does pH measure and what is the difference between pH and buffer pH?

Answer: pH is a measure of the acidity or alkalinity of a soil. When the soil solution (the water in the soil) contains equal numbers of hydrogen ions (H⁺) ions as hydroxyl (OH⁻) ions, the soil is neutral and the pH of the soil is 7.0. When there are more H⁺ ions than OH⁻ ions, the soil is acidic, and when there are more OH⁻ ions than H⁺ ions, the soil is alkaline. The scale is logarithmic. That means a soil with a pH of 6.0 is 10 times more acidic than a soil with a pH of 7.0. A soil with a pH of 5.0 is 10 times more acidic than a soil with a pH of 6.0 and 100 times more acidic than a soil with a pH of 7.0.

Soil acidity can be thought of as two types: active or soil solution acidity and reserve or exchangeable acidity. The active acidity of a soil is measured directly by a pH meter in the lab. Reserve acidity depends on several factors, such as amount and type of clay, amount of organic matter and soluble aluminum concentration in the soil. Therefore, two soils can have the same measured pH, but will require different amounts of lime to change the pH value and correct it

back to a more neutral pH.

A chemical test using a buffer, is performed in the laboratory to determine the amount of calcium carbonate equivalent (CCE) necessary to raise the soil pH to a desired level. This buffer solution reacts with the soil to neutralize both the active and reserve acidity. The change in the pH of the buffer can be measured and correlated to the amount of lime needed per acre to obtain the same results in the field. This is reported on the soil test report as buffer pH. A rule of thumb for buffer pH values is, for every 0.1 point below pH 7.0, it takes about 1,000 pounds of ag lime (60% CCE) to bring the top seven inches of soil up to a measured pH value of 6.5 (6.5 is considered the ideal pH for most crops).

For example, a soil with a buffer pH of 6.3 would require $(7.0 - 6.3) = 7$ tenths of a point \times 1,000 pounds of ag lime per tenth of a point = 7,000 pounds of ag lime per acre to bring the pH in the top seven inches value up to 6.5. If the lime is incorporated deeper than seven inches, larger amounts of lime are required to neutralize the acidity because you are affecting a greater mass of soil.

FOR MORE INFORMATION

UNL Extension in Lancaster County handout 303 "Answers to Questions About Liming Acid Soils" available at the extension office or online at <http://lancaster.unl.edu/ag/Factsheets/303-03.pdf>

How to Minimize Losses When Storing Hay Outside



The correct way to store hay in North/South rows.



The wrong way to store hay. Valleys are created by storing hay side-by-side.

Did you know over one-fourth of your hay's nutrients can be lost due to weathering between now and feeding next winter? To minimize these losses, make dense, evenly formed bales or stacks. They will shed water better and sag less than a soft core or less dense package. Use net wrap or plastic twine spaced no more than four inches apart on round bales to maintain bale shape and provide a smooth surface that encourages water runoff.

Store hay on an elevated, well-drained site so it won't

soak up moisture from wet soils or standing water. Especially avoid terrace valleys. Also avoid fences or tree lines that cause snow to drift onto hay or prevent wind and sunshine from drying off wet bales.

Often our biggest mistake is placing bales so water that runs off of one bale ends up soaking into an adjacent bale. Never stack round bales during the rainy season unless they are covered or will be fed soon. Avoid placing bales in a row with the twine ends touching one another.

Instead, it is best to place

round bales or stacks so there is about one foot of air space on all sides for good ventilation. Round bales also store well when flat ends are butted end-to-end in a cigar-like shape. Orient these rows north and south so prevailing winds will not cause snow drifts and so both sides of the row can receive sunlight for drying.

Follow these guidelines and you will lower your storage losses, increase feed quality and improve animal performance.

Source: Bruce Anderson, UNL Extension Forages Specialist

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