



Texas Agricultural Extension Service

The Texas A&M University System
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For Two Good Reasons Top Dressing Wheat Pays Off

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Top dressing wheat is an efficient fertility practice for two reasons. The first is that it allows a producer to evaluate crop condition before spending additional money on nitrogen (N) fertilizer. The second is the closer N fertilizer is applied relative to crop use, the less potential there is for loss due to environmental conditions such as leaching and/or denitrification.

When we are matching N requirements of the grain crop to N availability, top dress can be very important as the peak utilization of this nutrient is at jointing, or the time when the spike or head is forming. N uptake and use at this time can be as high as 2 pounds per acre per day. This high demand for N typically continues for about the next 30 to 40 days, with demand substantially decreasing as the plant approaches the boot stage.

The time is growing near for wheat producers who are thinking about top dressing their wheat. If the crop has adequate moisture as it approaches jointing, this can be the most efficient time to apply N to the crop. If the crop is short of moisture and stressed, it may not pay to top dress, and the farmer can significantly reduce production cost by not applying this N.

Top dressed N should be applied prior to the jointing stage (the stage where stem elongation occurs). Applications after this stage will most likely increase grain protein, but may not contribute to a profitable increase in grain yield. Until or unless wheat price is based on grain protein, late applications (after jointing) of nitrogen are not usually economical.

Producers who are planning to harvest wheat on which cattle are grazing should remove cattle prior to jointing, as well, since removal after jointing can reduce grain yield. Wheat will usually start jointing anywhere between February 15 and March 1 in the Rolling Plains of Texas. If you are planning to fertilize wheat between these dates, it may be best to inspect the fields to determine what growth stage the wheat is in prior to fertilization.

If a field does not have an adequate amount of soil N available for the wheat plant, properly timed applications of supplemental nitrogen can increase yields. The only way to know the actual amount of nutrients you need to produce a high yielding wheat crop is through a soil test.

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If you're wondering about how much N to apply this year, consider taking a soil test this summer after harvest. This will allow you to adequately fertilize your crop next year. (Producers should consider a soil test now prior to preplant fertilizer applications on summer cropland). Other things to consider in making a decision on top dressing wheat are a realistic yield goal, whether the wheat is grazed or not, and how much preplant fertilizer was applied.

In this scenario, you would need to apply an additional 34 lbs/acre of actual nitrogen to adequately supply the wheat plant with the N it needs for a 30 bushel yield goal. In this scenario, we are not considering other factors such as other nutrients needs, weeds, insects, and our wonderful friend the weather that can effect wheat yields as well.

Another consideration once we determine the amount of N we need is the source of N fertilizer to use. The source of N we choose should not effect yield. However, if urea is used, there is a greater potential for loss due to volatilization than with other sources of N. Finally, I would like to emphasize the importance of soil testing for future consideration on fertilizer needs. You can contact your local county agricultural agent for information on soil test procedures, soil test forms, and soil sample bags.

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