

Wheat Planted Without Fertilizer: Fall 2008

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There is apparently a significant acreage of winter wheat that was planted without any fertilizer applied at planting. The “plan” for this wheat may be to see if wheat prices increase and/or fertilizer prices decrease through the winter to levels that enable growers to make a profit. While this type of plan is very understandable with the wheat crop economics that have existed from September through the first of December, careful evaluation of the crop and selective use of fertilizers and weed control can increase potential yields and profits. The following discussion offers some ideas for advisers and growers to consider.

High wheat yields are made with fall tillers. The main stem and fall initiated tillers have larger root systems and more time to develop leaf area for filling grain in the spring. Once an adequate wheat stand has been obtained, nutrients, especially nitrogen (N) must be available in the surface soil layer to support the developing seedlings. Wheat seedlings that do not have adequate available nutrients will abort tillers, have slowly developing root systems, and lower yield potentials.

Two situations exist in wheat planted without fall fertilization. First, wheat planted following drought-stressed, low yielding corn that was well fertilized, and no heavy rains have occurred since planting; this wheat may have adequate nutrition to develop normally into winter. However, these fields should be scouted to determine that the wheat has a good color (dark green) and tillers and roots are developing normally. If normal development is occurring, then fertilization can wait. However, growers must be aware that a period of heavy rain may result in N movement out of the surface soil, and a small application of N may be needed earlier than normal winter top-dress time.

Second, wheat planted following normal to high yielding corn and the wheat was not fertilized; wheat is likely to suffer nutrient deficiencies, especially N during the fall. These fields can benefit from a small application (25 to 30 lbs N/acre) to save and/or increase fall tillers. When using UAN solution as the N source, the fertilizer should be diluted at least 50% to reduce potential leaf burn. While this does cost, the cost is small relative to potential yield increases that may result. Also, even if the grower decides to utilize the wheat as a cover crop, benefits from a vigorously growing wheat crop are that a greater amount of biomass will be grown, more nutrients (N, P and K) will be recovered to be recycled for the next crop, soil erosion will be reduced, and heavier mulch developed for no-tilling soybeans and corn, or strip-tilling cotton.

In addition to reduced yield potentials from the lack of nutrients in the fall, wheat yields can be reduced from fall weed competition. Wheat fields should be scouted to determine if weed control is needed. Many times a small N fertilizer application in conjunction with an appropriate herbicide can remove young weeds and increase the competitiveness of the wheat, reducing herbicide costs later in the season.

In summary, scout all wheat as soon as possible. Populations should be evaluated and determinations made for the need for fertilizer applications and weed control. Adequate fall development is essential for developing a wheat crop that has increased profit potential should the grower decide in winter to manage the crop for grain.