



FLUID FACTS

NFSA AGRONOMIC NEWSLETTER

Topdressing Wheat with Nitrogen Solutions

WHY TOPDRESS?

Protection from winter leaching and the opportunity to respond to favorable growing conditions in spring make topdressing wheat a smart management decision.

For maximum efficiency, nitrogen (N) fertilizer should be applied to winter wheat when it is actively growing. By establishing a good stand going into winter dormancy, then topdressing wheat in the spring, farmers can provide N to the plant prior to the time of maximum uptake.

MANAGEMENT FLEXIBILITY

Splitting the N application between fall and spring allows growers to control input levels based on anticipated weather conditions during the growing season. Colorado researchers found a 5 bu/ac yield increase in spring N applications over fall applied N. They concluded the chief benefit of spring-applied N application under dryland conditions: "It allows the producer the opportunity to evaluate spring stored soil moisture and plant population before additional investments in fertilizer are made."

Split applications in spring further refine the grower's ability to manage his crop. Applying multiple topdress N applications in spring enable farmers to more effectively match N inputs with plant needs based on actual soil moisture, stand development and other factors affecting potential yield.

OVERCOME WINTER KILL

Another advantage of topdressing is the ability to tailor spring N applications to promote tillering if winter kill has reduced the stand. A late winter application will provide N for tiller development as wheat breaks dormancy. Subsequent applications promote vigorous growth during jointing and leaf development.

CROP PROTECTION TREATMENTS WITH UAN

Spring UAN applications can be combined with herbicide and fungicide treatments to further "spoon feed" the crop while protecting the grower's investment from yield robbing-weed competition or disease. Slight leaf burn resulting from these treatments will not usually affect yield. Only late-season burn to the flagleaf is likely to reduce yields.

SULPHUR AND MICRONUTRIENTS

Topdressing also provides an ideal opportunity to supply the crop with needed secondary or micronutrients. Added sulfur (S) can provide a yield boost when soil or tissue tests indicate the need.

Spring-applied N and S increased yields over fall applications in research on winter wheat in Idaho. Spring applications of UAN and ammonium thiosulphate (ATS) at three sites averaged 4-22 bu/ac higher yields than fall applications. The 22 bu/ac yield difference was attributed to leaching losses of N and S in the fall-applied treatments.

Effect of Topdressing N and S on Winter Wheat Yield

Treatment	Site		
	1	2	3
---Yield bu/ac---			
Spring N+S *	102	65	79
Fall N+S *	98	60	56
Yield Advantage	4	5	23
Added Revenue	\$14	\$17	\$80

*Average of 40-120 lb N & 20 lb S per acre as UAN (32-0-0) & ATS (12-0-0-26). Assumes \$3.50 wheat.

Mahler & Lutchter, Univ. of Idaho

