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Module 5.1-5 Splitting nitrogen application improves grain yield and nitrogen efficiency for winter wheat.

Nitrogen is a very important contributor to grain yield of winter wheat in North Central China. A field experiment was conducted to investigate the effect of different basal: topdressing ratios for N application on grain yield, N uptake and efficiency. Basal application was at planting, and the topdress was applied at Zadoks GS30 growth stage (about 150 days after planting) The table below shows that N application increases grain yield by 20 to 35%, and two treatments with N splitting increases 10 to 12% more yield as compared with one application. Nitrogen splitting also increases N uptake by 2 to 7%, and improves N recovery efficiency by 9 to 25%. The best splitting treatment is with 60 kg N/ha applied basally and 180 kg N/ha as topdressing. The result from this study indicates that N application at the right time is important for high yield and efficiency. **Source:** Zhao, S.C. et al. 2011. Plant Nutrition and Fertilizer Science, 17(3): 517-525.

Treatment (split), kg N/ha	Grain yield, t/ha	N uptake, kg/ha	N recovery, %
0 N	5.4	124	-
240 N (0/240)	6.5	170	19
240 N (60/180)	7.3	181	24
240 N (120/120)	7.2	174	21

Submitted by P. He, IPNI, China, March 2013.