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Extension Service



Farm Update

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AGRICULTURE & NATURAL RESOURCES
EDUCATION

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Fall Fertility Management

Fall is an important fertility management period for small grains. Getting these crops off to a vigorous start that promotes winter hardiness is essential. That said, fertilizer costs, especially phosphate costs, are generally high, and grain prices, except for canola, are generally low. Economics affect fall fertilization decisions.

Start with a soil test. Soil test information is required when the fertilizer return on investment potential is uncertain, especially with the complications to this fall's nutrient plan due to an extended planting season and the late summer drought. Yields are all over the place this fall, resulting in less nutrient removal in some fields.

If you need to take samples this fall, the rain this week was beneficial. Accurate recommendations are not possible if the sampling depth is too shallow and the rain dilutes and distributes residual fertilizer salts deeper in the root zone. Depending on the soil test lab used, residual salts can cause lower soil water pH values, and the resulting soil test report then has a higher than needed lime rate recommendation. Early fall rains also leach potassium (K) out of harvested crop residues into the soil, which is then measured as soil test K (STK). Without these rains, all labs will report abnormally low STK values, resulting in overly high potash rate recommendations.

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Fall nitrogen (N) for the fall-seeded grains should only provide enough N to give good ground cover for winter survival, good rooting, and stimulate tillering. Planting after tobacco, soybean, or well-fertilized corn will usually have enough carryover N for fall growth. The full amount should not exceed 30 lb N/A for canola or 40 lb N/A for wheat in fields where nitrogen will be applied. Fall-applied N will be of little benefit to late-planted crops – where little fall growth is expected. No fall-applied N is recommended for cover crops unless these are planted early and will be grazed or cut for hay/haylage.

And while most P and K fertilizers for fall planted grain crops are applied in the fall, growers might consider delaying some or all maintenance P and K fertilization until late winter/early spring, at the time of the first N application.

Sulfur (S) deficiency symptoms in wheat have become more common, and canola has been known for greater S need relative to the other fall planted grains. Eroded areas are often the first parts of a field to show this S deficiency. Recent research sponsored by the Kentucky Small Grain Growers Association shows that Mehlich III extractable S can help indicate the probability of wheat S deficiency. When topsoil test S exceeded 20 lb S/acre, the probability of a positive wheat yield response to S addition was essentially unlikely. When soil test S values indicate an S addition is needed, 10 to 20 lb S/acre will meet crop needs.

Boron (B) deficiency can also occur in Kentucky wheat fields. In field research sponsored by the Kentucky Small Grain Growers Association, we found that soil testing for B can help producers decide when to apply B. Soil test B levels lower than 0.8 lb B/acre indicate a need for B addition. When a need for B fertilization is indicated, the recommended rate is 1 lb

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B/acre. Over-application of B can result in B toxicity, so B soil testing should be done regularly to prevent this problem from occurring.

In Kentucky, winter wheat and rye are more commonly planted as cover crops. Fall N, P, and K fertilization is not usual for cover crops – scavenging of residual soil nutrients is one of the main benefits of cover cropping. Fall nutrition, especially N addition, can enhance cover crop growth, and might be valuable when the cover crop is to be grazed/hayed/ensiled.

Fall has been considered an important opportunity for soil fertility management, and that remains true. Fall seeded crops benefit from good nutrition, but fertilizer economics are not entirely straightforward at present. Soil testing and being prepared for seasonal weather and pricing changes are important to a strong fall fertility program for these crops.

Cost Share reminder

Call the extension office to request that a 2025 County Agricultural Investment Program (cost share) request be mailed to you. Projects must be complete, and the required documentation must be postmarked by November 30.

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