

field's potential yield. The potential yield in northern

These fertilizer guidelines have been developed by the University of Idaho based on relationships between soil tests and crop yield responses to applied fertilizer. The fertilizer rates suggested are based on research results and are designed to produce above-average yields if other factors are not limiting production. Thus, the fertilizer guide assumes the use of good management practices.

The suggested fertilizer rates will be accurate for your field provided (1) your soil sample was taken properly and is representative of the area to be fertilized, and (2) the crop and fertilizer history you supply is complete and accurate. For help in obtaining a proper soil sample, confer with the extension agricultural educator in your county.

Nitrogen fertilizer recommendations for orchardgrass, crested wheatgrass, creeping red fescue, and brome grass will be similar to those for bluegrass. Recommendations for other essential nutrients will be the same as those for bluegrass.

Nitrogen

Nitrogen (N) is the most important nutrient in bluegrass seed production, and large amounts are needed for established stands. The amount of N fertilizer required on any field depends on the following factors:

- 1. The bluegrass variety and its yield potential in your location. The variety Argyle generally requires less N for optimum yields than other varieties.
- 2. Total annual precipitation and other climatic factors.
- 3. The age of the bluegrass stand.
- 4. The amount of usable N in the soil profile, including predicted mineralizable N (released from decomposing organic matter during the growing season) and inorganic soil test N in the forms of nitrate (NO3) and ammonium (NH4).

Total N need based on variety and climate—

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----- (lb/acre) -----				
Argyle	155	165	175	190
South Dak] ta	165	175	185	200
All other varieties	160	170	185	195

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Mineralizable nitrogen—Soils vary in their capac- seasonTD0.0015 Tca.0002 Tc [((52ties)-1895.8c0900ohose for bl [(

Table 2. Annual mineral nitrogen fertilizer use

Micronutrients

Grasses rarely respond to applications of micronutrients in northern Idaho. Recommendations for specific micronutrients follow.

Boron—Boron (B) should be applied only when soils test less than 0.3 ppm B. Needed B should be surface broadcast at a rate not exceeding 1½ pounds B per acre. For more information on B and specific fertilizer materials, refer to University of Idaho CIS 1085, *Boron*.

Zinc—Although zinc (Zn) deficiencies in northern Idaho are rare, applications should be considered when soil test levels are less than 0.6 ppm Zn in the surface 12 inches of the soil. Zinc fertilizer should be surface broadcast at the rate of 5 pounds Zn per acre. For more information on Zn, refer to University of Idaho CIS 1088, *Zinc*.

Other micronutrients—Bluegrass has never been shown to respond to applications of chlorine (Cl), copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo), or nickel (Ni). Therefore, application of these materials for grass seed production is not recommended.

Lime

Grass is more tolerant of low pH conditions than wheat, barley, peas, lentils, and alfalfa. Bluegrass seed yields fall only when soil pH is less than 5.0. When soil pH is less than 5.0 in the surface foot of the soil profile, consider lime applications of ½ to 1 ton per acre. Because lime must be incorporated into the soil to be effective, it must be applied before seeding. Topdress applications of lime on established sod will not effectively increase soil pH. For more information on lime applications and liming materials, refer to University of Idaho CIS 757, *Lime*.

Agronomy/Water quality considerations

- Water quality considerations, a d c a a ca c c a a d d c d.
- All fertilizer sources of N, P, and K are equally satisfactory for grass seed production. Sulfate forms of S are recommended. Elemental S should not be considered because it becomes available to plants slowly and acidifies the soil.
- All fertilizer N should be applied in the fall. Research has shown that N applied in the spring often reduces bluegrass seed yields, especially when applied after

April 15. Phosphorus, potassium, and sulfur should also be applied in the fall.

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- Grass stubble burning not only causes loss of N to the atmosphere but also results in S loss. Consequently, growers must be sure to monitor soil S levels.

Further reading

- CIS 757, *Lime*, 50 cents
 BUL 704, *Bluegrass*, \$2.00
 CIS 1085, *Boron*, \$3.00
 CIS 1087, *Phosphorus*, \$1.00
 CIS 1088, *Zinc*, \$3.00
- To order copies of these or other University of Idaho Extension publications, contact the University of Idaho Extension office in