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EXTENSION SERVICE

Oregon State University Fertilizer Guide for

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Blue Grass Seed

(Western Oregon—West of Cascades)

Good management practices are essential if optimum fertilizer responses are to be realized. These practices include use of recommended varieties, selection of adapted soils, weed control, disease and insect control, good seed bed preparation, proper seeding methods, and timely harvest.

Recommended soil sampling procedures should be followed in order to estimate fertilizer needs. The Oregon State University Extension Service agent in your county can provide you with soil sampling instructions, soil sample bags, and information sheets.

NITROGEN (N)

Liberal amounts of available N are required for optimum yields of blue grass seed.

On new seedings, place 20-40 lbs N/A near the seed. At least 1 inch of soil should separate the seed and fertilizer.

On established stands, a total annual application of 100 to 120 lbs N/A is suggested.

Apply 20 to 30 lbs N/A in the fall. An adequate supply of N in the fall stimulates early tiller development important to optimum seed production. Apply 70 to 100 lbs N/A during March.

The application of nitrate N to wet soils can result in the loss of N through reduction of nitrate.

PHOSPHORUS (P)

Soil testing should be used to evaluate the need for P fertilization.

On new seedings, when the OSU soil test for P is below 30 ppm, place 30 lbs P_2O_5/A near the seed. At least 1 inch of soil should separate the seed and fertilizer. The application rate should be increased by 50% when P is broadcast rather than placed near the seed.

On established stands, *P should be broadcast in the fall.*

If the OSU soil test for P reads (ppm)	Apply this amount of phosphorus (P_2O_5)-lbs/A
0 to 15	40 - 60
15 to 25	30 - 40
Over 25	None

POTASSIUM (K)

Soil testing should be used to evaluate the need for K fertilization.

On new seedings, when the OSU soil test for K is below 100 ppm, place 25 lbs K_2O/A near the seed. At least 1 inch of soil should separate the seed and fertilizer. The K application rate should be increased by 50% where K is broadcast.

On established stands, *K should be broadcast in the fall.*

If the OSU soil test for K reads (ppm):	Apply this amount of potash (K_2O)-(lbs/A)
0 to 100	60
Over 100	None

SULFUR (S)

Include 10-15 lbs/A of S in the annual fertilizer program for blue grass. S is sometimes contained in fertilizers used to supply other nutrients such as N, P, and K, but may not be present in sufficient quantity.

Plants absorb S in the form of sulfate. Fertilizer materials supply S in the form of sulfate and elemental S.

Elemental S must convert to sulfate in the soil before the S becomes available to plants. The conversion of elemental S to sulfate is usually rapid for fine ground (less than 40 mesh) material in warm moist soil.

S in the sulfate form can be applied at planting time. Some S fertilizer materials such as elemental S and ammonium sulfate have an acidifying effect on soil.

The S requirements of blue grass can be provided by:

1. The annual application of 10-15 lbs S/A in the form of sulfate or as fine ground (finer than 40 mesh) elemental S. Elemental S will not be available to plants until the soil warms up.
2. Applying 30-40 lbs S/A as sulfate or fine ground elemental S every second year.
3. Applying coarser ground elemental S at higher rates and less frequently.

OTHER NUTRIENTS

Responses of blue grass to nutrients other than those discussed in this guide have not been observed in Oregon.

LIME

Blue grass has responded to applications of lime in experiments conducted on acid soil in the Willamette Valley.

The application of lime is suggested when the soil pH is below 5.8 or the soil test for calcium (Ca) is below 5 meq Ca/100g. Lime should be worked into the seedbed at least several weeks before seeding. The amount of lime required is based on an SMP lime requirement test.

If the OSU SMP buffer test for lime reads:	Apply this amount of lime (T/A):
Below 5.5	4 - 5
5.5 - 5.8	3 - 4
5.8 - 6.1	2 - 3
6.1 - 6.5	1 - 2
over 6.5	0

The suggested liming rate is based on 100 score lime. Liming materials should be checked for score.

A lime application is effective over several years.

The use of N fertilizers for grass seed crops will tend to increase soil acidity (decrease soil pH). This should be considered in establishing or renovating perennial grass seed fields.

The surface application of lime to established seed fields could increase the soil pH in the surface one-half inch of soil and thereby increase the possibility of N loss from ammonium N and urea due to volatilization. Also, broadcasting lime on established stands of perennial grasses is not as effective as mixing lime with the soil.

Evaluate the soil acidity problem before making new plantings. The lime application should allow for some decrease in soil pH during the life of a perennial stand of grass.

Some soils may have a fairly high OSU SMP buffer value (over 6.2) and a low pH (below 5.3). This condition can be caused by the application of acidifying fertilizer. In this case the low pH value is temporary and the pH of the soil will increase as the fertilizer completes its reaction with the soil. This temporary "active" acidity from fertilizer is encountered following recent applications of most nitrogen fertilizer materials. Acidifying fertilizers also have a "long term" acidifying effect on soil which is cumulative and leads to lower OSU SMP buffer readings.

Sandy soils to which fertilizers have not been recently applied sometimes record low pH and high SMP buffer values. In such cases, a light application of lime (1 to 2 T/A) should suffice to neutralize soil acidity.

For acid soils low in Mg (less than 0.5 meq Mg/100g of soil) one ton/A of dolomite lime can be used as a Mg source. Dolomite and ground limestone have about the same ability to neutralize soil acidity.

The P, K, and lime recommendations are based on soil test values from the Soil Testing Laboratory, OSU, Corvallis, Oregon.

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