

Oklahoma USDA Cost-Share Lime And Fertilizer Recommendations

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This recommendation is prepared for **USDA cost-share on establishment of grasses and long-term maintenance of grasses (e.g., CRP)**. The cost-share is for the purpose of conservation and erosion control. The amounts of lime and fertilizers recommended are different from those of regular OSU recommendations (Fact sheet PSS-2225). Therefore, there are special instructions that must be used when submitting soil samples for grass establishment using USDA cost-share to the Soil, Water and Forage Laboratory. This will distinguish the USDA cost-share recommendations from other OSU fertility recommendations.

When soil samples are sent to the lab for an USDA cost-share program you must mark the sample tag correctly by checking the **Cost Share** box on the lower right corner of the tag. The name of the grass should also be written on the line next to **Corp.**

AGLIME

For cost share purposes, grasses may be seeded without liming when a soil test taken **within the last three years** shows the soil pH to be 5.0 or greater. Weeping lovegrass and fescue may be seeded without liming when the pH is 4.5 or greater. When the soil pH is below these critical values, **aglime should be applied according to Table 1**. The amount of lime required is that needed to reduce metal toxicity (aluminum and manganese). Recent research has shown that 0.5 ton per acre of ECCE lime or ¼ of the amount identified by the BI to raise the pH to 6.8, *whichever is greatest*, is sufficient. Cost-share will now be limited to these new recommended rates of aglime.

FERTILIZERS

Adequate supplies of phosphorus (P) and potassium (K) are necessary for seedling grass stands to successfully compete with weedy

plants more tolerant of infertile soils and to survive environmental stresses such as drought and harsh winters. Many eroded and sparsely vegetated areas are inherently infertile and cannot be successfully re-vegetated unless soil fertility is improved. Adequate P and K for seeding are assured by *either*:

1. **A recent soil test identifying that P and K are adequate.**
2. **Applying the deficiency amounts of P and K (P₂O₅ and K₂O up to 40 lbs/acre of each nutrient) identified by a recent soil test.**

Available soil nitrogen (N) stimulates plant growth. New plantings of grasses that respond to improved N availability, added N can provide them a competitive advantage. However, since many grass seedlings do not respond vigorously, the policy on N fertilization is being set as follows:

1. **Unless the most recent soil test was taken *within the previous 60 days*, the amount of available nitrogen in the soil should be considered to be zero.**
2. **"N" will not be recommended for introduced bluestems or native grass plantings (No cost-share will be provided for N applied incidental to P₂O₅ and K₂O needs). A maximum of 40 lbs/ac. N (soil test plus fertilizer N) is recommended for establishing other grasses.**

Cost share will still be limited to 40 lbs/ac each of N, P₂O₅ and K₂O as required and applied under the above conditions and procedures. A summary of the aglime and fertilizer recommendations used for USDA Cost-share programs in Oklahoma are given in the following tables:

Table 1. Amount of lime allowed for cost share of grass establishment. No lime is recommended for fescue and weeping lovegrass when soil pH is 4.5 or greater. No lime is recommended for other grasses when soil pH is 5.0 or Higher. Tons of aglime/ac = Tons ECCE lime required / %ECCE (This number is available from lime vendor).

Buffer Index	Tons ECCE lime/ac
7.2 to 6.6	0.5
6.5	0.6
6.4	0.8
6.3	0.9
6.2	1.0
6.1	1.2
6.0	1.4

Table 2. Nitrogen recommendation for grass establishments. Also for maintenance of grasses in long-term deferment programs, e.g. CRP, etc.

Soil Test N ¹	All Other Grass Establishments	Native Grass/Bluestem Establishments	Maintenance of All Grasses ²
	lbs/ac		
0	40	0	40
1	39	0	39
2	38	0	38
3	37	0	37
4	36	0	36
5	35	0	35
6	34	0	34
7	33	0	33
8	32	0	32
9	31	0	31
10	30	0	30
11	29	0	29
12	28	0	28
13	27	0	27
14	26	0	26
15	25	0	25
16	24	0	24
17	23	0	23
18	22	0	22
19	21	0	21
20	20 ¹	0	20 ¹
21+	0	0	0

¹ Nitrogen soil test values are only valid if test is within the last 60 days; therefore assume nitrogen soil test of zero (0) when old tests are used. Nitrogen recommendations of less than 20 lbs/ac will not be made. ² Maintenance for all grasses planted under CRP or other long-term deferment programs.

Table 3. Phosphorus recommendation for grass establishments. Also for maintenance of grasses in long-term deferment programs, e.g., CRP, etc.

Soil Test P Index	Bermudagrass Establishments	Fescue & Other Cool Season Establishments	Bluestem and Lovegrass Establishments	Native Grass Establishments
	lbs/ac P ₂ O ₅			
0	40	40	40	40
1	40	40	40	38
2	40	40	40	36
3	40	40	40	34
4	40	40	40	32
5	40	40	40	30
6	40	40	40	28
7	40	40	40	26
8	40	40	40	24
9	40	40	40	22
10	40	40	40	20 ¹
11-20	40	40	30	0
21-40	30	30	20 ¹	0
41-48	20 ¹	20 ¹	0	0
49+	0	0	0	0

¹Phosphorus recommendations of less than 20 lbs/ac will not be made.

Table 4. Potassium recommendation for grass establishments. Also for maintenance of grasses in long-term deferment programs, e.g., CRP, etc.

Soil Test K Index	Bermudagrass Establishments	Fescue & Other Cool Season Establishments	Bluestem and Lovegrass Establishments	Native Grass Establishments
	lbs/ac K ₂ O			
0-40	40	40	40	40
41-80	40	40	40	30
81-125	40	40	30	20 ¹
126-200	30	30	20 ¹	0
201-216	20 ¹	20 ¹	0	0
217+	0	0	0	0

¹Potassium recommendations of less than 20 lbs/ac will not be made.

Revised from *Oklahoma NRCS Cost-Share Lime and Fertilizer Recommendations (May 2004)*, by Larry Poindexter, Oklahoma NRCS, and Hailin Zhang, Oklahoma Cooperative Extension Service.