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Ryegrass Fertilization in South Florida

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Annual or Italian ryegrass (*Lolium multiflorum* Lam.) is an important cool-season grass often grown in Florida to provide a high quality forage during the winter and early spring (January-April). Ryegrass can be seeded alone or grown with other forages and can generally be grazed within two months of seeding with grazing continuing for 120 days or more.

Proper fertilization and lime practices are essential for maximum production of high quality ryegrass. Field research studies have been conducted at the Ona AREC to reevaluate the fertilizer and lime recommendations for ryegrass in order to find the most economical fertilizer requirements for ryegrass production in Florida.

Before a fertilizer or limestone recommendation can be made for ryegrass it is essential that a soil sample be taken and analyzed by a reputable soil testing laboratory. A soil analysis will then determine the nutrient status and pH of the soil from which a fertilizer and limestone recommendation can then be made. In order to get an accurate soil analysis it is important to take the soil samples correctly. To do this one should take between six to eight soil cores per acre from the surface six inches and mix them together as a composite soil sample to be analyzed.

Nitrogen is the most important nutrient for crop production however all nutrients are essential for maximum forage production. Ona should apply 30 pounds N/ acre at planting followed by another 50 pounds N/acre every four to six weeks. Recent studies conducted at the Ona AREC have shown that only 25 pounds P_2O_5 /acre applied at planting is needed for maximum ryegrass production when the soil tests very low in P. One should also apply approximately 50 pounds K_2O/A if the soil tests low in K. Micronutrients should be applied every two to three years as determined by soil tests.

Data from ryegrass fertilization studies at Ona have shown that limestone should be applied to the soil when the pH is less than 5.5. It is important to point out that over liming is as bad as underliming. If coarse textured (sands) soils are overlimed (pH over 7.0), poor plant growth may result due to the unavailability of micronutrients. Only a soil test can tell you for sure if you need lime. The laboratory will also be able to give you a recommendation as to the quality and type of limestone that you will require. Generally, dolomitic limestone is recommended over calcitic limestone (high cal) if the calcium to magnesium ratio is greater than eight to one. If the ratio is less than the eight to one either high cal or dolomitic limestone may be used. The optimum soil pH for ryegrass production on sandy soils in Florida is 5.5-6.0. It is best to apply limestone three to four months prior to planting to give it time to raise the soil pH. When possible incorporate the limestone to a depth of six inches to allow the limestone to react with the soil faster.