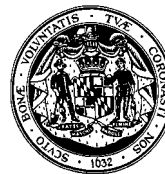


Maryland Nutrient Management Program  
**Variance for Commercial Fertilizer  
Nutrient Application**

(August 2004)



Occasionally operators may need to group a number of fields within a close level (short range) of soil fertility and prepare a fertilizer blend for each group rather than field specific nutrient recommendation rates developed by the software programs. This guidance document will be used by MDA Nutrient Management Program Specialists during an implementation evaluation to evaluate the degree of variance between planned recommendation rates and actual applied rates for operators using commercial fertilizer sources.

**Variance in Nutrient Application Rates for Commercial Fertilizer**

**Nitrogen:**

Total application of commercial nitrogen should not exceed the recommended rate by more than #10/acre. Any rate over the recommended rate or the 10#/acre must be justified and is subject to be in non-compliance.

**Phosphorus and Potassium**

Recommended rates of commercial phosphorus and potassium can be applied at one rate when the plan recommends various rates for different fields. When using a blended fertilizer material containing phosphorus and potassium, the combined rates **cannot exceed** the phosphorus requirements. The following guidance should be used when evaluating the grouping of recommended nutrient rates.

**Phosphorus**

Maryland soil test FIV's will be used as a guide for what recommended rates can be grouped at one rate. Any soil test FIV's for phosphorus with the same rating (example: low, medium, optimum) can be managed at one rate. The rate should not exceed the highest recommended rate given in your nutrient management plan for that crop in that soil test range. The rate **cannot** exceed the upper limit of the nutrient recommended for that crop and yield goal within that soil test range, given in the Maryland Nutrient Management Manual, Section I-B1 and I-B2. (See two examples below)

**Example 1:** An operator has 3 corn fields with a yield goal of 140 bushel/acre. The three fields all have different rates of phosphorus recommendations from NuMan. Field 1 recommends #30/acre, field 2 recommends #50/acre, and field 3 recommends #0/acre. Any of these three fields with the same soil test FIV rating can be grouped together and applied at one rate, not to exceed the upper limit recommended within the plan for these crops in the given soil test FIV range. Fields 1 & 2 have a recommendation of #30 and #50/acre and have a soil test FIV rating of medium. Therefore fields 1 and 2 can be applied at the same rate, of up to #50 (the highest recommended rate). Field 3's recommendation is #0/acre, with an excessive soil test FIV rating, and cannot be grouped with fields 1 & 2. Field 3 would be allowed a starter fertilizer of up to #30/acre (provided the P-FIV is less than 150 or a P-Site evaluation has been done) however, the operator **cannot** exceed this rate.

The consultant or person grouping the fields should stay within the lower range when grouping recommendations for one rate when a high range is provided in the manual.

**Example 2:** An operator again has 3 corn fields with a yield goal of 140 bushel/acre. The three fields all have different rates of phosphorus recommendations from NuMan. Field 1 recommends #120/acre, field 2 recommends #130/acre, and field 3 recommends #70/acre. According to the Maryland Nutrient Management Manual, Section I-B1, these three fields all have the same soil test FIV rating of Low and could be grouped together. However, MDA suggests that the fields be grouped together within the particular range as close to the recommendation as possible. In this case, field 3 should be treated separate from fields 1 and 2 since the FIV range of field 3 is almost half the recommendation of fields 1 and 2. Fields 1 and 2 can be grouped together not to exceed #130/acre.

### **Potassium Requirement #1**

The same guidance of grouping fields together is used for potassium. Any fields with the same soil test FIV ratings for potassium can be managed at one rate. The rate should not exceed the highest recommended rate given in your nutrient management plan for that crop in that soil test range.

### **Potassium Requirement #2**

If the operator has recommended rates of potassium that are lower than what can be achieved because of equipment limitations or product availability, they may apply **up to** the recommended rates of that crop and the crop to follow (will require a 2 year crop plan). However, the operator **must** account for the over application with the following crop.

**Example:** The operator has a recommendation for #30/acre of potassium for their soybean crop, however, they are unable to achieve this rate based on equipment limitations. They plan to follow this crop with wheat/beans which has a recommendation for #60/acre potassium. Therefore the operator may apply **up to** #90/acre potassium at anytime during that 2 year/2 crop rotation. This is only if the operator has equipment limitation issues. If there are no equipment limitations, the operator will need to follow Requirement No. 1.

All applications of nutrients and any reasoning for exceeding the recommended plan rates must be documented. Any applications that exceed the above guidance are subject to be in non-compliance unless prior approval has been granted by the Department.