

# MEASURE AND MANAGE

## Agri-Food Laboratories Recommendations

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The Agri-Food laboratory recommendations have changed as of August 1, 2004. With the Nutrient Management Act, applications of nutrients are permitted with prescribed materials on high testing soils at rates equal to crop removal. As soil test levels reach High ratings and beyond the Agri-food Recommendations reflect the crop removal values based on stated yield goal. Actual rates are dependant upon your Nutrient Management Plan.

The most notable change is the departure of a philosophical approach to recommending more K on corn than soybeans. Each crop will display the actual removal values independently. The option is still there to fertilize at removal rates for a rotation as each crop will clearly show their requirements. This will allow for better utilization of manure and fertilizer nutrients .The fertility levels on cash crop acres have been declining steadily since 1990, while those of livestock operations have maintained or increased.

### Soil Test Rankings

The rankings of low (L), medium (M), high (H), Very High (VH) are in reference to meeting the needs of the intended crop. A soil test of “L” indicates that the soils ability to supply that nutrient is poor and supplemental nutrients are required and are recorded in the recommendation section of the report. In addition to rankings the following table illustrates the probability % of achieving an economical response.

### Interpretation of Soil Test rankings and the probability of obtaining an economical response to applied fertility.

Rank	Probability of Response%		Need for Supplementation
	P	K	
Nutrient			
Low (L)	70	75	Very High
Medium (M)	55	50	High
High (H)	25	50	Medium
Very High (VH)	<25	<30	Low

Even at Very High values there is a 30% chance of obtaining an economical response, in any given year management x weather interactions combine to make one or more nutrients more or less available. The use of starter fertilizers in row crops provides a level of assurance and buffers against the possibility of limited nutrient uptake especially the non-mobile elements. Keeping pace with crop removal in a rotation is another strategy.

## **P Recommendations**

We have regressed the Accredited OMAF recommendations for P and integrated a crop removal factor as the soil test approaches “high” the recommendation shifts from a recommendation indicating response to one displaying crop removal.

**Target K values** are determined for each soil sample, if your result is higher than the target value the crop removal value is displayed. If your result is less than the target value then a recommendation to raise the soil test is included with the crop removal recommendation. The build is spread over 2 years if it is greater than 50 lbs.

The Target K value is determined as  $2.5 \times \text{CEC} + 120$

Crop removal values are included in the recommendation to serve as guidelines for Regulated Farms under the Nutrient Management Act to guide manure applications, although K is not a regulated nutrient it is important to maintain balanced fertility.

In a cash crop operation the economics of response versus soil test maintenance must be considered in the decision to apply fertilizer in a rotation. It is unwise to remove more than you put back, it is uneconomical to farm with soil test rankings at either Low or Excessive. At Low you may not be achieving maximum economic yield and at Excessive you are not achieving maximum economic returns. It is wise to spread manure on fields with lower soil tests first for better nutrient use efficiency and spread high testing fields last at crop removal rates.

In **Horticultural Crops** the nutrient levels required for Yield are usually lower than those to achieve maximum quality. At this time we are integrating a variety of sources into our Horticulture Crop recommendations, local, and international research and grower input from historical production and experiences with quality production. These recommendations will change often as research is conducted and modifications for quality are discovered.

Until such a time peer reviewed research is conducted for Ontario, approved by the OSMRSC and the Nutrient Management Act names Horticulture Operations as “Regulated Farms” Agri-food laboratories will maintain this approach.

### **OMAF Recommendations remain unchanged.**

These New Recommendations are available in our **On Line Report Recommendation** The latest addition is the **Agri-Food Laboratories Manure Database** which can be used with the On Line Recommendations to determine appropriate nutrient credits. As well your own manure report can be selected and integrated into your soil report recommendations.

It is always advisable to use the “AgTest Manure Analysis” service to determine your own nutrient credits.

These new recommendations are reflective of the latest practices and Regulated requirements any questions can be directed to

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