Soil
FACTSHEET

BRITISH COLUMBIA
Ministry of Agriculture and Food

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SOIL LABORATORIES IN BRITISH COLUMBIA

Farmers in B.C. must now rely on the private sector to provide them with soil testing services and recommendations on economic and environmentally sound fertilization practices. From time to time, farmers seek help from our staff to interpret the soil test results and to offer opinions on the accuracy of fertilizer recommendations. Many are confused by the fact that results and recommendations from various labs may be quite different for an identical soil sample. This Soil Factsheet will outline some of the reasons for these differences and provide some views on the extent to which field staff should comment on or modify recommendations from private labs.

PHILOSOPHY OF FERTILIZER RECOMMENDATIONS

One of the possible reasons for fertilizer differences is that the "philosophy of fertilizer recommendation" is different for some of the laboratories. The term "philosophy of fertilizer recommendation" here means that based on different goals the laboratories may recommend different rates of fertilizer even if each obtained the same soil test result for a sample. Some of these goals are:

a) To apply a relatively low amount of fertilizer in order to get the highest possible monetary return on the money spent on fertilizer;

b) To apply those higher rates which are expected to result in the highest possible benefits per acre or maximum net revenue. This is the "optimum" rate;

c) To apply still higher rates in order to increase the general nutrient level of the soil for the benefit of future crops;

d) Application of nutrients to achieve a desired yield goal.

SOIL TEST VALUES

Analytical methods used by various laboratories may differ. Chemical extractants, extraction time, soil to solution ratios, and the size of the soil sample used for extraction will all affect the soil test result. For instance, it is well known that for alkaline soils, some extractants are better than others in assessing phosphorus availability.

SOIL TEST CALIBRATION DATA

Once a laboratory has determined the nutrient status of a soil, it must interpret the results to arrive at fertilizer recommendations. Interpretations are based on soil test calibration data from field and greenhouse experiments conducted regionally. Testing laboratories using non-regional data sets may make inappropriate recommendations for the crops to be grown.

However, in B.C., there is no "official" set of data that laboratories must use to interpret soil test results. Therefore, unless the data set that the laboratory is using is known, no comment should be made on the fertilizer recommendation.

CAUTION TO BCMAF FIELD STAFF

Staff should be careful about commenting on the accuracy of soil test results and the appropriateness of any fertilizer recommendations. Unless staff have a very detailed understanding of the recommendation philosophy, soil test methods, and calibration data that a particular laboratory is using, no comments or modifications should be made. If a farmer is concerned about the service being given by a laboratory, he or she should be referred to the laboratory in question.

Staff should use a great deal of caution about making any statements that could impact the success of a particular soil testing facility in the market place. Soil testing should be viewed the same as any other market transaction. It is the responsibility of the farmers to select a laboratory based on factors such as location, service, and reputation. It is not the responsibility of Ministry staff to recommend one laboratory over another unless there are absolutely clear, objective and defensible reasons.

FOR FURTHER INFORMATION CONTACT
Geoff Hughes-Games, Provincial Soil Specialist
(Written by: N. Gough)
Phone: (604) 556-3102 Email: Geoff.HughesGames@gems7.gov.bc.ca

RESOURCE MANAGEMENT BRANCH
Ministry of Agriculture and Food
1767 Angus Campbell Road
Abbotsford, BC CANADA V3G 2M3