HELP TO EXTENSION WORKERS IN DETERMINING THE NEEDS OF SOILS AND CROPS

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WHAT is stated here on the subject of chemical soil tests is from the viewpoint of one who is interested more particularly in the production of dairy crops and general farm crops rather than in market gardens or greenhouse crops.

If it is the purpose of this paper to "start something", it is hoped that it might be a fuller realization of the pressure under which most agricultural extension workers and especially the county agricultural agents work and their impatience to get on with committee meetings, correspondence, circular letter releases, news articles, farmers' meetings, demonstrations, program making, membership drives, reports, exhibits, keeping up on the newest information along all lines of agriculture, and innumerable other things of which these are only a suggestion, all of them, however, important and necessary to the continuation of their jobs and the good they hope to accomplish.

It is hoped that it might be possible to start some accurate thinking along the line of the difficulties in the way of the county agent giving careful persistent study to such intricate problems as that of soil chemistry. It is also desired to direct attention to those sources of information available to county agents for which they may not be receiving full credit.

The problem of the experimenter in soil fertility is not quite that of the agricultural extension agent or the extension specialist. The research worker studying soil fertility problems wants to know what plant nutrient is deficient or which one or more plant nutrients will give crop responses when used on a particular soil under definite, known conditions and for a particular crop. From this point he may generalize, or perhaps he may set up another experiment.

The extension worker on the other hand, wants to know what answer to make to each of 50 to 500 or more farmers who are asking what kind and amount of fertilizer will give satisfactory results for a variety of crops when used on one to a dozen fields varying in soil types and differing in their past lime and fertilizer treatments. If the handicaps to the "extensioner" could stop here the problem would not be so difficult, but he must be able to give his answer for the unknown moisture and temperature conditions of the coming season with no assurance of the cultural care that will be given the crop and no very accurate guide as to the value of the crop after it has been grown. Moreover, the answers must be given between the spring thaw and crop planting time, in many instances between spring plowing time and seeding. This is also the time of year when

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