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## A PROPOSAL FOR A DO-IT-YOURSELF, HANDS-ON, ON-THE-FARM, APPLIED RESEARCH NETWORK

Silas B. Weeks

In earlier times the agricultural experiment stations, in cooperation with county extension staff and local farmers, conducted substantial amounts of applied research using on-the-farm test plots.

These investigations included variety trials, fertilizer applications, insect control measures, yield results; also, farm records kept in cooperation with Extension and DHIA frequently were analyzed with the operator to determine feeding rates and ratios or related milk yields, weight gains, eggs laid per bird, etc. Additionally, farm management specialists worked on the farm doing time-motion studies of livestock feeding, machine performance and barn layout as this related to chore work and various seasonal jobs.

In large measure, this type of research is no longer conducted. The reasons are not clear; in part, however, they seem to lie with the matter of professional prestige. This kind of research is no longer viewed as sufficiently sophisticated for publication in refereed journals. Additionally, much research is now performed primarily with regard to the views of peers rather than directed towards the public good. Emphasis is apt to be on the use of complicated methodology, measuring devices, statistical manipulation, computer techniques and mathematical modeling.

As a result, there is an increasingly large knowledge gap concerning a variety of pragmatic input-output relationships. This is especially true concerning practices carried out by limited resource farmers, homesteaders, family gardens, and especially as their practices may relate to organic or biological modes of production and labor-intensive systems.

It seems highly unlikely, despite large amounts of rhetoric to the contrary, that the land grant university research resources will return to such hands-on research or that extension will return to on-the-farm demonstration teaching. Thus, hundreds of alternative agriculture people are dependent on such sources as *Organic Gardening* for production practices, control measures and variety recommendations. This and similar publications contain articles by well-intentioned amateurs which essentially end up as "recommendations" but are, for the most part, limited to one or two personal observations which may or may not have any basic validity for the conclusion drawn.

### PROPOSAL

Inasmuch as it is unlikely that the official agricultural establishment will be conducting carefully monitored research for this limited and specialized clientele and inasmuch as much of the information presently supplied is of questionable validity, the following is proposed:

- A. That a hands-on or do-it-yourself amateur research network be established.
- B. That this be accomplished by seeking out qualified research scientists in the experiment stations and related institutions and requesting them to design simplified research procedures for use by amateurs:

1. That could be conducted on their farm,
  2. That would be limited to those procedures not requiring sophisticated instrumentation,
  3. Or if instrumentation is needed (leaf analysis), arrangements be made whereby the necessary evaluations could be done through experiment station equipment,
  4. That some research and/or extension staff be available for direct consultation in regard to applying the research designs or viewing results by either on-the-farm visits, phone, or letter.
- C. That a handbook of procedures and research designs for a variety of testing be developed (for example, how to test insect control measures, fertilizer application, variety yields, weed control, livestock yields, tree growth, etc.).
  - D. That each particular set of instructions indicate the kind and size of control necessary, the replications needed, measurement techniques to be used (how to collect, count, weight, analyze, etc.), and presence of exogenous factors to be taken into account (temperature, rainfall, etc.).
  - E. That there be standard forms in which data be recorded/summarized and analyzed.
  - F. That such material be made available through a limited number of sources, perhaps Extension and small farmer organizations. Some group would have the objective of establishing a network among the amateur researchers in order that:
    1. They might compare results with one another carrying out similar research projects,
    2. That arrangements might be made for farm-garden tours or visits to demonstrate and discuss findings, and
    3. That where satisfactory validity of findings is established, the results be made available for general use.
  - G. Essentially what is being proposed is support of the traditional Yankee tinkerer or basement inventor, not in terms of money but rather procedures that will:
    - a. Assist in correct design of the experiment,
    - b. Result in a valid assessment of the results.

### A POSSIBLE PROJECT DESIGN

Under the direction of a project leader, a small advisory committee representing knowledgeable professionals in such disciplines as forestry, horticulture, entomology, agronomy, field crops, vegetable crops, dairy, poultry, swine, sheep and agricultural engineering be assembled to delineate areas that could be subject to hands-on research by amateurs and to identify those existing researchers they believe would be sympathetic to assisting in drafting specific research designs and procedures.

Following such an identification, the various Experiment Stations and Extension directors be advised of the project and requests made to the individual researchers for appointments to discuss the needs and the problems associated with drafting procedures.

This phase would probably require a project director and some consultant/assistants to travel the New England region and possibly make some out-of-region visits to sources such as Beltsville, and Geneva. This would probably require a period of

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two to four months. An estimated additional three to six months probably would be needed to assemble, draft, confirm and publish the sets of procedures developed.

These would be in individual form rather than a single

handbook; thus the person interested only in testing onion juice as a control for Colorado potato beetles could select the procedure necessary to evaluate biological insect control measures, without being supplied the entire series.