

The Natural Farmer

Pay Attention! - Summer 2002 Special Supplement on On-Farm Research

By Bryan O'Hara

"Pay Attention!" Luckily these words were spoken frequently to me. Farming is an occupation fully involved with the constantly changing environment. Careful observation of this environment is essential to farm decisions. Farm efficiency is largely the result of these decisions. Economic conditions have created the need for more efficiency on many farms. The more time a farmer can use for careful observation, the more efficiency will increase. Yet, a person can engage in careful observation for only so long per day, and there needs to be time for dreaming, relaxation, and reflection. Unfortunately there are some other distractions which are not so worthy such as selfish desires and fears, lies, deceit, and meaningless narrative (as in television). These days a person who does not have a great degree of control over what their mind is engaged in, and therefore cannot commit to long periods of careful observation, may have a hard time making a living farming. Observation involves not only recognizing occurrences but also the ability to remember these occurrences. This is where writing and record keeping become important, for if records are available you can recall a greater amount of observations, which is very useful in decision making.

It is important that decisions be rational and based on as much observation as possible. Research is involved with increasing our observations so that we can make better decisions. Research is observation and interpretation of occurrences, revision and repetition of these interpretations. Research offers evidence on which to base decisions. Since research is valuable in decision making it makes sense to do your own. You know what research will most benefit you, and credible accessible research helps progress our occupations as well as our culture.

When setting up research first identify your "problem" or decision that could use more evidence. Then determine what research has already been done and how: up to date, relevant, consistent, representative, and sufficient it is in terms of your situation. Then determine where your research would most likely benefit you. Your research can be used in conjunction with previous research to provide more evidence for previous conclusions, or for entirely new conclusions. Appropriate methods and materials are of course essential to credible research, and this is where scientists are useful. Many scientists are very talented at setting up research projects on the farm. They often have access to previous research and rational, critical minds. It is wise to collaborate on large research projects with them, and they also often have access to funds for farm research. There is great potential for farmer - scientist research, to observe and work with natural systems, to share our knowledge to improve our land.

Farmer - Scientist collaborative research projects on our Tobacco Road Farm in Lebanon Connecticut, have included a project on squash vine borers with Rob Durgy of the Co-operative Extension, and a

Brassica flea beetle project with Kim Stoner of the Connecticut Agricultural Experiment Station. With quite a bit of pumpkin growing on neighboring farms, squash vine borers had become a problem for our squash production. Yields were low. After consulting with Rob Durgy, he did a literature search to find relevant information as well as talked with other farmers. We learned much about these insects including that the adult moth does not emerge to lay eggs until relatively late in the season. This seemed consistent with our, and other farmers, observations.

Row covers had been used on farm to keep insects off other crops, but had to be removed from Cucurbit crops at flowering to allow for insect pollination. We wondered if early planting or row covers could improve yields. We applied to SARE (Sustainable Agriculture Research and Education) and set up a research project. We used cotton row covers on hoops over squash planted in succession every two weeks from April 20 to July 15. Half the plants were covered and half left uncovered, and squash yields were measured. Squash vine borer adults were pheromone trapped to see when they were active. The yields clearly showed the earliest planting produced better by far, likely due to the fact that they were large and already fruiting by the time the first squash vine borer adults emerged and were captured. The covered plants produced better than the uncovered though all later plantings yielded little covered or uncovered. This was very useful research to our particular situation and may be useful to some degree in other situations.

Flea beetles had become a problem on our Brassica crops so after much on farm observation we consulted with Kim Stoner. She did a very thorough literature search and found a fair sized pile of research that was at least somewhat relevant. After reading this research we found much observation was lacking — observations that would be necessary to develop control strategies. We applied for SARE funding to set up a research project to observe flea beetles on a variety of Brassica crops through the season. We placed yellow sticky traps at a rate of two per plot per week. There were seven sites, 158 sticky traps, and 6,811 flea beetles. The beetles were identified by species, counted, and degree-days recorded. This gave us information on which species are active when, and relative population levels. This has proven useful in developing further on farm research, and has assisted us in control strategies. The full report on these research projects as well as many others is available through SARE. So get out there, do some research and remember to Pay Attention!