

Agricultural Adjustment in the Carolinas and Georgia through Alternative Cropping Systems

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A 5-year project was developed to investigate the economic and biological feasibility of expanded production of vegetable crops either as a complement to or a substitute for current crops. The objectives were to 1) identify crops that have the most potential for expansion for North Carolina, South Carolina, and Georgia; 2) develop production practices and determine feasibility of competitively producing specific vegetables on family farms; 3) evaluate alternative markets for new and expanded production of selected vegetable crops; and 4) develop and disseminate specific recommendations on expanded production of vegetable crops. To develop a data base, seven locations in the region were evaluated as potential production sites. The production potential of 11 crops—snap beans, broccoli, carrots, cauliflower, collards, cucumbers, potatoes, let-

tuce, muskmelon, peppers, and tomatoes—was determined at these sites for variety and planting date superiority. To accomplish the project's objectives, university horticulturists and economists in the three states have cooperated in discipline-based research.

THE SITUATION

The 1970s saw a continuation of agricultural specialization and reliance on major agronomic crops for farm profits. This situation was fueled by the world money supply and simplicity of the system. In the 1980s, we were joined in this market by many other nations, and the money supply was lower. Thus, many farmers began inquiring into alternatives, presenting an opportunity for research. Our

project was initiated as a means to answer the questions about alternatives for the region. We have a coordinated effort to answer questions of supply duration and level by using seven locations in three states. We first investigated 11 crops on two spring and two fall planting dates. This project also provided a framework for multi-institution studies of cropping problems not easily arranged under traditional circumstances. The project has generated a very large data base under controlled conditions. The involvement of 27 horticulturists and economists has provided a wide diversity of thought and experience with which to set goals and objectives. Both human and scientific aspects of the project will be discussed.

PROJECT INITIATION

"How did this project get its start?" This is an appropriate question. Strife and trouble seem to generate new solutions to human problems. When we were experiencing the drastic reductions in farm income in the mid-1980s, many farmers were looking for alternatives and asking questions about what to grow. The high value of vegetable crops makes them a prime candidate as an alternative for less profitable agronomic crops. However, the vegetable industry is in a subtle balance of supply and demand with no huge gaps in market availability. It was the view of the project originators that there was room in the marketplace for a coordinated effort of production that would supply the market over a long period.

It was understood from the outset that, unless growers made money, vegetable production increases were meaningless. We developed the cooperative effort of economist and horticulturist to cover production potential and profitability. We also determined that a single state could not provide the climate and seasonality necessary for the desired length of vegetable production. Thus, the two Carolinas and Georgia combined forces to solve the common problem of generation of alternative sources of farm income.

How we chose crops was of the utmost concern and provided the need for deep thought and reflection. The choice of crops was made from those that had relatively high return and large market share. Some of the crops were traditional to the area, while others existed only as potentials.

Production requirements and limits were of great concern during the early development of the project. Culture of a new crop in the area often brings many problems to light. In our Work, the problems were both site specific and general. For example, we generally had difficulty establishing a stand of carrots on our sandy soils-all of which tend to dry out readily. This affects the emergence of the shallow-planted seeds. Cauliflower grew well in some locations, yet in others it was beset with every malady possible. Leaf lettuce grew well in most locations, but a market analysis revealed that the volume of sales was inconsequential. The use of new cultural practices brought on its own learning curve. When we tried to grow bell peppers on plastic mulch with drip irrigation we found that the learning curve for this technology was very steep and the adoption of such a practice would not be as easy for this crop as it had been for tomatoes and muskmelons.

UNDERSTANDING THE ECONOMIC REALITIES

The determination of market windows for many of the crops in this project was ignored because we felt that "pure competition" may be the only way for some of our people to break into the market. In other words, we will have to take someone else's market in order to be in the market.

In another phase of the project, J. Rathwell and L. Bauer of Clemson Univ., along with their students, did a market window analysis on several crops (Venturella et al., 1988). They found cabbage had a market window in April. However, during the normal time for production (June through November) there was little opportunity for profit, even though many growers are successful during this season.

If a market does exist and if growers can access this market, there are questions important for most growers (Codette and Wall, 1978). Growers must gain an understanding of the marketing system and gain experience to feel secure in the marketplace. This is done by knowing grades and quality expectations gained by communicating

with buyers and assessing market response. In a study by Harrison et al. (1989), other market factors, such as color, grade, and size, were more important than price. Experience is the best teacher in this situation, but it can be tempered by high levels of communication and constant check and recheck on loads and quality expectations.

Gaining confidence that a product can be sold is not easy. Communication with sales agents and a rapport with buyers are the only ways growers can gain confidence. There is no book on how to market produce. It takes time and experience. My suggestion is that the grower invest in an expert to sell his product, just the same as he invests in a soil test. He can do it himself, but he has more important management tasks to keep the farm running.

Getting the program started was the most difficult task. After the decisions of what to do were answered, we still had to determine how to coordinate our studies. These decisions were partly potential product sales, partly interests of the cooperators, partly understanding of the crops, and partly a survey of past fundability.

PROJECT ACTUATION

Setting priorities for goals was another important consideration in development of the project. This project was part money-driven, with a pragmatic view of academia vs. reality. It was partly local-needs driven, to fill in gaps in knowledge and experiences. It was partly cooperation-driven, i.e. "you help me with my strong suit and I'll help you with yours"; together we can maximize our efforts to solve grower and research problems.

Whom to involve was of concern to all. Involvement was based on interest, cooperative spirit, climate, and location. Strong, forceful communication was established at the outset. We communicated openly and forthrightly and this helped bring about the cooperative effort. It was a team with a place for individualism.

Building cooperation came from communication, understanding and respect for one another. This spirit of cooperation was fostered by frequent meetings of horticulturists and economists both together and by discipline. These meetings served to keep all informed and to help train one another.

How to finance this project was solved through the generation of political support and the approval by appropriate governmental agencies. Communication with political supporters was vital to the success of the recurring funding of this project. Other sources of these and similar funds may be foundations and government research and development agencies.

Our contacts for the development of this proposal were influential growers, elected officials, and a network of people with influence in government.

How to make an impact on local and regional potential success was of great concern to us. Having an impact is important in funding realization and renewal. We sold the project on its potential good and demonstrated that we could make a difference. We told the funders what to expect. We used public relations.

Knowing how much funding to ask for was difficult to determine. No matter what one asks for it will never be enough. But one should always ask for more than one thinks one needs. All sorts of unforeseen expenses come up and we have a way of overestimating the work we can get done with additional money.

The determination of the return on investment provided a challenge. But with some creative thought we determined that good measures of the success of our work would be increased plantings, new crops in the area, and new growers. New hectareage times delivery prices equals dollars returned to the industry.

With all these plans and potential developments, one wonders how we got the job done. The first concern was to determine what is a realistic workload. This was probably the most difficult question for us to answer. One can not do all the job single handedly; one must manage employees, students, and volunteers. My suggestion is, don't hesitate to ask for help.

The turnaround time is always longer than planned for or expected, so don't be too optimistic. It takes time to process proposals, gather equipment, employ labor, and process data-one should have a realistic view of the time requirement.

The end product of a study like this can only be information. However, implementation will not just happen. Extension and the support industry will have to be involved, and the university will have to become involved in promotion if such projects are to succeed. The employment of external advisors and promoters is not beyond the realm of reality in today's world. These groups can carry the message to the public better than we can because that is their sole job.

REPORTING

The implementation of the newly generated information is an important part of project success. What is the best vehicle to get the information to the target audience? Here are some dissemination channels that we are using: *Extension reports* – this is also a research responsibility; *workshops* – we have planned one for this project; *computer software* – we have developed Budget Planner and Crop Planner; *field days* – we have had only limited success and effectiveness with these; *symposia* – one was planned for Feb. 1990; *one-on-one contacts* -we have informed the extension agent of the progress and best results; *mass media and PR* – We can never have enough of this sort of thing; *academia* – for college professors, journal articles are a fact of life and we had better realize this early; *other* – research bulletins now often are forgotten, but they still provide reasonable ways to get information to the public.

HOW TO GET GROWERS AND MARKETING AGENTS TOGETHER

We planned symposium for Feb. 1990 to be done cooperatively between the U.S. Dept. of Agriculture and the universities. We hope that this will act as a springboard for greater communication and cooperation in our produce industry.

We continue to struggle with the age-old problem of how to interest growers in producing new crops. It is often hard to encourage people to grow something they do not eat. But the common denominator of money seems to be a good way of encouraging interest. I am not really sure we need to convince growers that they should grow some new crop, rather, we should let the need for profit provide the encouragement.

EVALUATION OF PROJECT

What the university can demonstrate is the value of and, sometimes more importantly, the lack of value in growing a new crop.

It is important that the university report the information as facts but let people make their own decisions. Thus, we are left with the recurrent question, Does the university get involved in promotion? To this I answer, Yes and No!

We did have some creative ways to increase visibility of the new crops we were working with. We did this by having frequent articles in popular press, like a project report column. Often the articles only mentioned the project in passing or in a trailer line.

How one judges the impact of an alternative crops program is mainly in a measure of the total effort of communication, publications, and other informational sources. Our strengths of this program are the cooperation of three states, cooperativeness of the people involved, and multidisciplinary approach. Our weaknesses were mainly that of overoptimism.

For future projects of this kind, I feel it is important to enumerate the pitfalls, those being: overwork, overexpectation, unequal funding, too much independent activity, and funds apportioned based on work.

We are often ask how to get feedback, and I can only answer, talk to real friends. Ask about usefulness and import of the project. For future work, I feel we need to do a better job of explaining that the project is not aimed at expansion of production, but to gain a new market for growers.

Another frequently asked question is, Did the ends justify the means? And to this my answer is, I'm not sure. We have generated a large data base; without this project, it would not have been possible. Industry could not have generated this data base without this project. We are still analyzing of all the data, and the true meaning of the project will come only when these analyses are complete. We will not realize all of its ramifications for several years. I think it will be a model for future projects that attempt to affect an area.

Literature Cited

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