

# Policy Challenges in New Crop Development

Robert L. Myers

## THE PRESENT AGRICULTURAL CONTEXT FOR DIVERSIFICATION

Agricultural systems throughout human history have tended to be much more diverse than present US farms, and many non-western types of agricultural still include many plant species. Even early in this century, most farms had a diversified crop base and kept some native vegetation in place. There are probably several reasons why we have evolved to the present system. One factor has been the increased specialization and cost of farm machinery, although it is worth noting that many alternative crops can be grown with present farm equipment. More significant factors in the move towards monoculture agriculture include the lack of marketing options, the extensive research support for traditional crops, and the emphasis in USDA support programs on commodity crops.

As the agricultural marketplace has become more dominated by large companies, there has been increasing pressure on grain elevators and processors to handle relatively few crops. New processing plants are often built to serve just a single crop, despite the fact that many seed crops can be processed in a very similar fashion. For example, soybean processing facilities can often be modified at reasonable cost to handle other oilseeds. The buying demands of the big grain marketers also connects to the unwillingness of many grain elevator managers to deal with cleaning and storing separately another grain, especially one they are not used to handling, such as canola. Agronomic researchers have tended to concentrate their efforts on the major crops: maize, and to a lesser extent, wheat, soybeans, and cotton. This gives a competitive advantage to the traditional commodities. Within the policy arena, the emergence of politically potent commodity organizations for crops such as maize, soybeans, cotton, and wheat, has assured that these crops get special support from Congress and USDA. This extends through direct commodity payments, export assistance programs, crop insurance offerings, and even rules written for conservation programs.

## WHY THE LACK OF SUPPORT FOR NEW CROPS?

New crop development has clearly suffered from a lack of political and policy support, for several reasons. The most obvious is the lack of support for new crops by well-positioned agricultural companies and organizations, especially the commodity groups. However, there have been other challenges, such as explaining to policy makers the complex and time-consuming nature of new crop development. Although new crops can help in the long term with problems like commodity surpluses or weather-induced crop losses, they are not the type of short term fix favored by federal policy makers. It is much more politically potent to announce a \$100 million wheat export or hog purchase, that will take effect within a few weeks, rather than launch a long-term effort with new crops that may take decades to reach maximum impact.

For the more research minded policy makers, new crops fail to fit into the push towards basic research, especially genomics and biotechnology. At a national policy level, we have been eager to put hundreds of millions into more basic research on crops we produce in surplus, yet doing applied plant breeding to develop a new crop gets no attention. There is the often expressed attitude, too, that new crops must not have much merit or farmers would already be growing them.

Getting policy support for new crops will depend in part on providing anecdotes of success stories, rather than a heavy dose of statistics on new crop need or potential. Elected officials need to be able to relate to how new crops can help individual farmers or communities that they represent.

## SUPPORTING NEW CROPS THROUGH POLICY CHANGES

A number of specific policy steps are needed to spur further new crop development. Foremost is gaining additional funding for research, education, and marketing programs on new crops. A key step in doing this has been getting Congress to authorize a national Thomas Jefferson Initiative for Crop Diversification, which provides for a coordinated program on new crop development.

Appropriations support is still needed to make the Jefferson Initiative a reality. Funding for the Initiative

needs to be long-term, especially to allow germplasm development and plant breeding to take place. The current trend of making USDA research funds go into short-term competitive grants, is not suited to supporting long-term breeding programs, although such grants can work for certain aspects of new crop development, such as utilization studies.

### **Jefferson Initiative**

In addressing the issue of developing more national for new crops, a Council of Agricultural Science and Technology (CAST) task force recommended a new national initiative (Janick et al. 1996). They proposed that Congress authorize and fund a Thomas Jefferson Initiative for Crop Diversification. Specifically, CAST suggested that the Jefferson Initiative consist of three parts: a set of regional centers, a national coordinating center, and a pool of grant funds available to open competition.

In action on the Agricultural Research, Education, and Extension Reauthorization Act of 1997 (P.L. 105-185), Congress included the recommendations of CAST. Congress authorized appropriations for a national program “conducting research and development, in cooperation with other public and private entities, on the production and marketing of new and nontraditional crops needed to strengthen and diversify the agricultural production base of the United States.” The Congress designated that at least half of any appropriated funds should be for “regional efforts centered at colleges and universities.” Competitive grants may be awarded to colleges or universities, non-profit organizations, public agencies, or individuals (such as producers). The national coordinating center was authorized to work with the regional centers and help support marketing efforts and other national needs, including development of appropriate federal guidelines affecting new crop development and use. If Congress provides appropriations for the Jefferson Initiative during 1999 action, funds would be made available through USDA-CSREES sometime in the year 2000. At this point there is good support for the Jefferson Initiative among relevant policy makers in Washington, but there are also many competing demands for new funding. The current low prices of the major commodities will help focus attention on alternative approaches, however, such as crop diversification.

### **Other Areas of Needed National Policy Change**

In addition to obtaining federal funding for research and development, there are several other areas where national policy change is needed, including crop insurance. Most alternative crops are not eligible for federal crop insurance. This barrier is amplified because many banks will not give a farm operating loan to plant a crop for which there is no insurance available. The producer who needs an operating loan may have no choice but to grow more conventional crops.

Grain grading standards or other market class guidelines are needed for most alternative crops. Without these in place, farmers who grow a premium product are penalized, and worse, potential buyers may lack confidence in the quality of the crop because of lack of standards.

Obtaining pesticide registration for alternative crops is usually very difficult, given their small acreage. Agrichemical companies have no incentive to spend millions of dollars to register a chemical product for a crop grown on only a few thousand acres. This issue could be partially addressed if EPA were more flexible in extending existing pesticide registrations to similar crops; pesticides registered for canola, for example could reasonably be applied to crambe, which is a member of the mustard family like canola. The lack of current pesticide registrations for many alternative crops means that organic or pesticide-free production methods must be developed, and those production guidelines accepted by organic certification programs.

Support for new and alternative crops can and should be included in other government programs as well, such as conservation programs and export programs. In situations where acreage reduction of commodity crops is a goal, such acreage diversion programs could allow a selected amount of alternative crops to be “demonstrated” on the set aside ground. Taking this approach eliminates the land cost as part of the production, which may amount to 1/3 to 1/2 of the regular cost of growing the crop. This would be a substantial incentive to try a new crop. When conservation programs provide direct payments to farmers, they should allow for consideration of diversified crop rotations, since these often help with erosion control and other environmental goals. New crops can blend with other conservation approaches such as agroforestry or buffer strips as well, and guidelines need to provide enough flexibility to innovate in cropping system design.

Billions of dollars have been spent to export the major commodities of maize, wheat, soybeans, and cotton. Yet not one penny has been spent by the USDA marketing division to offset imports of crops such as canola, sesame, and guar. There is no question that the commodity crops should receive the bulk of our trade assistance dollars, but at the same time it would be highly appropriate and very beneficial to spend a small proportion of these funds to develop crops that can be grown domestically, rather than imported, or to develop crops with good export potential, such as buckwheat, adzuki bean, and kenaf. State departments of agriculture could also help with trade and export issues surrounding alternative crops, rather than focusing so heavily on commodities.

At the local level, institutional and company policies directly affect the potential for new crop success. Farm lenders must be flexible in supporting new crops. Farm machinery dealers must be knowledgeable about how to adapt equipment to work with new crops. Grain elevator managers need to be willing to handle grain other than corn, soybeans, or wheat. In the case of non-grain crops, there needs to be delivery points and arrangements made for marketing the crops through food/crop brokers.

## **CONCLUSIONS**

To be successful in reducing policy barriers to new crop development, a variety of approaches will be needed. These changes will require sustained contact with policy makers over a significant period of time, providing appropriate new crop success stories that can gradually develop a support base for new crops. Immediate needs include obtaining more federal support for new crop research and development, such as through the national Jefferson Initiative. Longer term policy needs involve changes in federal crop insurance, market class guidelines, trade programs, and conservation programs. In addition to change at the federal level, education and outreach is need to reduce attitudinal and policy barriers in local institutions and companies. Over time, the local and national barriers to new crops can be reduced, making diversification more feasible, and providing long term benefit to both the agricultural community and taxpayers as a whole.

## **REFERENCES**

Janick, J., M.G. Blase, D.L. Johnson, G.D. Jolliff, and R.L. Myers. 1996. Diversifying U.S. crop production. CAST Issue Paper 6, Council for Agricultural Science and Technology, Ames IA.