Legislating Restrictions on Biotech Crops on Economic and Social Grounds: Roundup Ready Wheat

The Issue in Brief

On May 10, 2004, Monsanto Company announced the suspension of its plans to commercialize Roundup Ready (RR) wheat. This decision did not come in response to any health or environmental regulatory concern. Regulatory review was underway at APHIS and FDA, with most observers not expecting either agency to object to the product. Monsanto’s decision was driven, rather, by a declining wheat market and the apparent unreadiness of the market to accept the product. U.S. wheat producers had voiced concerns that their customers—foreign and domestic—might not accept RR wheat and that key export markets, such as Japan and Europe, might be closed to all U.S. wheat exports due to concerns within those markets that it would not be possible for the marketplace to adequately segregate biotech and nonbiotech wheat. Prior to Monsanto’s decision, a number of U.S. wheat producers and other food system stakeholders had mounted a campaign in opposition to the commercialization of RR wheat, at least until the market acceptance issues had been resolved—a campaign that included efforts to persuade state legislators to take action against the commercialization of Roundup Ready wheat.

This experience illustrates acutely how economic concerns can drive activity at the state level and poses the question of what role state legislatures and governments should play in accepting or rejecting biotech crops and foods on economic or other social grounds, rather than for health or environmental reasons. It also raises the question of the authority of state governments to prohibit the planting of a biotech crop for economic reasons.

The Economic Interests of States

Wheat is an important agricultural commodity in the United States, ranking third, behind corn and soybeans, in planted acreage and gross farm receipts. In 2002, total U.S. wheat production was over 1.6 billion bushels, valued at almost six billion dollars. Almost half of the wheat produced in the United States is exported, accounting for approximately 7.5% of all U.S. agricultural exports by value. The top wheat-producing states—Kansas, North Dakota, Washington, Montana, and Oklahoma—accounted for over half of the U.S. wheat production in 2002.

372 Monsanto Company 2004. RR wheat is a genetically modified variety designed to be resistant to the herbicide Roundup®, a Monsanto Company product commonly used for weed control.
373 FDA has since completed its premarket consultation with Monsanto, which means the agency would not object to the marketing of foods produced from Roundup Ready wheat. Fabi 2004.
374 USDA ERS 2000.
375 USDA NASS 2003(a).
376 Western Organization of Resource Councils 2002.
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Compared with recent developments in the corn and soybean markets, however, the market for wheat has been in decline. Loss of global export market share, low real prices, and a drop in wheat harvested area from its peak in 1981—all have contributed to the decline of the U.S. wheat market. This weak outlook has contributed to the contentious environment surrounding the commercialization of RR wheat. Monsanto had planned to introduce a spring wheat variety grown primarily in the Northern Plains states of North Dakota, Montana, South Dakota, and Minnesota.

While some stakeholders raised agronomic, environmental, and food safety issues concerning the commercialization of RR wheat, the predominant concern voiced in the debate at the state level pertained to its potential economic impact, based on doubts about consumer acceptance and continued U.S. access to wheat export markets. For wheat growers, any threat to export markets is a grave concern. A customer survey conducted by a U.S. wheat trade group had shown strong resistance to RR wheat in key export markets, such as those in Asia. Only a small percentage of respondents in Taiwan (18%) and South Asia (22%) said they would accept RR wheat. The reaction in Japan, the largest export market for U.S. spring wheat, is illustrative of the resistance to biotech wheat and the resulting economic problem. The Japanese Food Agency stated that “the import of [biotech] wheat would be almost impossible without consumers’ acceptance and flour millers’ demand, even after Japan provided the regulatory safety approval.” The Japan Flour Millers Association, whose members command over 90% of the total wheat market in Japan, has expressed concern about RR wheat based on anticipated consumer reaction.

In light of these marketplace realities, a university researcher analyzed the short-term economic impact on U.S. wheat export markets of introducing RR spring wheat and concluded that “up to 30–50% of the foreign market for hard spring wheat and durum wheat exports could be lost.”

Arguably, one way to minimize the economic impact of RR wheat would be to establish a segregation system that would preserve the identity of the biotech and nonbiotech varieties and channel the RR wheat to markets where it would be accepted. This approach has been used to help ensure that U.S.-produced biotech corn that is not approved in Europe is channeled elsewhere. The practical limits of any segregation and identity preservation (IP)

378 USDA ERS 2000.
382 Japan imports 47 million bushels of U.S. spring wheat, followed by the Philippines (31.3 million), Taiwan (21.4 million), Italy (15.7 million) and Korea (13.3 million). North Dakota Wheat Commission 2002–2003.
System are well recognized. As one respondent to a survey of grain elevator operators in North Dakota said, “it’s impossible to have a segregation system with zero tolerances." Some foreign markets have already indicated that, even with a well-functioning IP system, they will be forced to import wheat from other countries if RR wheat is commercialized in the U.S.

**Stakeholder Perspectives**

Concerns about the commercialization of RR wheat have come from across the spectrum of stakeholders. Unlikely allies, such as wheat farmers, producer associations, the food industry, organic growers, consumer groups, environmental organizations, and states, have joined in opposition, with organic farmers being among the most vocal opponents. Even groups that have historically been supportive of biotechnology, such as trade associations, are raising concerns about the economic implications of RR wheat. For example, the U.S. wheat industry’s position on biotechnology acknowledges that while “biotechnology research holds great promise for the future, ... our customers’ needs and preferences are the most important consideration ... we strongly urge technology providers to obtain international regulatory approval and to ensure customer acceptance prior to commercialization.” Wheat growers who opposed commercialization of RR wheat were also wary of the possibility that the United States might approve the product without a parallel approval in Canada, thus risking loss of export markets to Canadian competitors.

The Farm Bureau’s statement on agricultural biotechnology also emphasizes that access to international markets “is crucial for future trade of U.S. farm and ranch products.” To help ensure continued market access, the Farm Bureau has suggested that the White House designate a lead person to coordinate the administration’s biotechnology policy and the efforts of the three main agencies that regulate biotechnology.

The food industry, while confident of the safety of biotech crops and foods, is concerned about consumer perception and market acceptance of biotech wheat. Ron Triani of Kraft Foods noted that Kraft is unsure as to whether or not it will use biotech wheat in its products because of consumer concerns and emphasized that “we need to maintain consumer confidence in our products and we need to protect the equity of our brands.”

Monsanto has worked with the wheat industry and other stakeholders to address these concerns. In January 2002, Monsanto issued its RR wheat pledge, committing the company to not commercially releasing RR wheat until the following criteria had been met: (1) regulatory approval in the United States,

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386 Institute for Agriculture and Trade Policy 2003.
389 American Farm Bureau Federation 2004.
390 American Farm Bureau Federation 2004.
391 Triani 2003.
Canada, and Japan has been obtained; (2) appropriate regulatory controls are in place to ensure access to export markets; (3) appropriate grain handling protocols and analytical methods are developed and implemented; (4) grower stewardship programs and best management practices are in place; (5) varieties are of industry standards for end-use quality; and (6) export markets are secured. The press reported in March of 2004, however, that Monsanto informed the wheat industry it was reconsidering its commitment to obtain regulatory approval from Canada prior to commercialization because the regulatory environment in Canada was proving difficult to navigate.

Regulatory approval in Canada has proven difficult for Monsanto due to consumer and producer resistance. The Canadian stakeholder community has worked diligently to slow the commercialization of RR wheat. In a letter to Canadian Agriculture Minister Lyle Vanclief, wheat producer associations, marketing boards, and soil conservation associations argued that the government should include in its regulatory approval process a cost-benefit analysis of the market impacts of commercializing RR wheat. In a news release, the Canadian Wheat Board (CWB), a producer-controlled grain marketing organization, asked Monsanto to “put the interests of their customers, western Canadian farmers, ahead of their own commercial interests and put the brakes on [RR wheat].”

State Actions

With livelihoods on the line, Monsanto’s RR wheat pledge apparently left many in the Northern Plains wheat-producing states unsatisfied. Some stakeholders in these states pursued individual actions to protect their economic interests, while others worked with regional and national advocacy organizations to put forth citizens’ petitions, ballot measures, and state legislative proposals.

In March 2003, individual wheat farmers, state senators, and farmer organizations in the Northern Plains petitioned USDA to deny Monsanto’s request for authorization to commercialize until the government fully assessed the environmental and economic ramifications of biotech wheat, including the feasibility of segregating it from nonbiotech wheat. Almost a year later, additional groups, such as the Organic Trade Association, the Minnesota Farmers Union, and the National Catholic Rural Life Conference, joined in...
support of the original petition. This petition was considered significant because it “raised issues like loss of export markets and the danger of super weeds, that, frankly, the USDA has never looked at seriously before in other crops,” according to the Institute for Agriculture and Trade Policy, an organization critical of agricultural biotechnology.\footnote{Institute for Agriculture and Trade Policy 2004.}

The petition to USDA followed state legislative initiatives that had attempted to protect state economic interests.\footnote{Dakota Resource Counsel 2003.} North Dakota has been one of the most active and outspoken states on the commercialization of RR wheat. The state first considered legislation on the subject in 2001, based on the expectation that Monsanto would commercially introduce RR wheat between 2003 and 2005. This legislation would have provided the state’s Seed Department with the authority to create a seed and crops verification program for producers who wanted to cultivate nonbiotech varieties for markets that would not accept biotech crops and foods.\footnote{Cropchoice 2001.}

In 2003, a bill was introduced in the North Dakota legislature with the support of Commissioner of Agriculture Roger Johnson to mitigate the effects of biotech wheat on the state by creating a Transgenic Wheat Board. The bill would have charged the board with monitoring biotech wheat research and export market acceptance of biotech wheat, but it never made it out of committee. Other bills introduced in North Dakota addressed liability for contamination of nonbiotech crops with the biotech varieties and proposed requirements for seed retailers or distributors to obtain certificates of approval for biotech wheat seed prior to sale in the state.\footnote{North Dakota Legislative Assembly n.d.(a), n.d.(b), n.d.(c).} Similarly, a ballot measure was proposed that would give the North Dakota agriculture commissioner power over whether or not genetically modified wheat seeds could be planted in the state, based on public hearings and consultation with a panel of experts.\footnote{Associated Press 2004; Limvere et al. 2004.} Following Monsanto’s decision not to pursue commercialization of RR wheat, the push to get this measure on the ballot was suspended.

Other states also introduced legislation to deal with the RR wheat issue. Montana legislators, for example, introduced nine bills on RR wheat from 2001 to 2003.\footnote{Montana State Legislature 2001(a,b), 2003(a,b,d–h).} These included bills establishing a moratorium on biotech wheat, creating a Wheat Bond Board, establishing a committee to analyze market impacts of biotech wheat, and requiring the state department of agriculture to implement a certification process for the introduction of biotech wheat. From the perspective of the Montana Grain Growers Association (MGGA), the bills to regulate or restrict RR wheat were motivated by organic producers, groups concerned about the presence of large corporations in Montana agriculture, and others who feared loss of market share for Montana wheat due to consumer fear of biotechnology. The MGGA, on the other hand, was generally comfortable with the principles Monsanto had
agreed to as the basis for deciding whether to market RR wheat.\footnote{Stoner and Edwards 2004.} Although the legislative efforts failed, the Montana legislature did pass a joint resolution in April of 2003 stating that “… genetically engineered wheat or barley should be grown in Montana only when there is acceptance of these genetically engineered crops by a majority of Montana’s foreign markets.”\footnote{Montana Legislature 2003(g).}

### Current Status

In announcing that it was dropping plans to commercialize RR wheat, Monsanto said it was “realigning research and development investments to accelerate the development of new and improved traits in corn, cotton and oilseeds,” and that it plans to discontinue field-level research on the biotech wheat.\footnote{Monsanto Company 2004.} The press reported that the company had indicated it would not necessarily withdraw its petition at APHIS for nonregulated status,\footnote{Pollack 2004.} but as of June 17, Monsanto had retracted its RR wheat submissions from all the federal regulatory agencies except FDA.\footnote{Rampton 2004.}

The wheat industry commended Monsanto’s decision, commenting that, “This isn’t the end of biotech in wheat … this is just a decision by Monsanto that the market’s not ready yet.”\footnote{Coppock 2004.} Though Monsanto said its decision was not based on public pressure—it cited declining market and planting acreage for spring wheat—consumer groups viewed the decision as a victory, asserting that issues of “[c]onsumer acceptance and the readiness of the commercial markets are as important as food and environmental safety for biotech crops these days.”\footnote{Pollack 2004.} Many Northern Plains wheat farmers were relieved by the decision. A representative of the North Dakota Farmers Union indicated that the group is not opposed to the technology. Rather, it is concerned about the potential loss of export markets that may occur if biotech wheat is commercialized at this time.\footnote{Pollack 2004.}

Despite Monsanto’s decision, the issues surrounding acceptance of GM wheat are not over. Syngenta AG, a Switzerland–based company, recently announced plans to release a fusarium-resistant biotech wheat variety as early as 2007.\footnote{Gillam 2004(a).}

### Implications and a Question About State Authority

In the end, Monsanto’s decision not to proceed with RR wheat was driven by the marketplace. Many stakeholders in the debate had looked, however, to state governments to protect their economic and other social interests.

\footnotesize{403 Stoner and Edwards 2004.} \footnotesize{404 Montana Legislature 2003(g).} \footnotesize{405 Monsanto Company 2004.} \footnotesize{406 Pollack 2004.} \footnotesize{407 Rampton 2004.} \footnotesize{408 Coppock 2004.} \footnotesize{409 Pollack 2004.} \footnotesize{410 Pollack 2004.} \footnotesize{411 Gillam 2004(a).}
The willingness of political leaders to consider interventions was an important part of the backdrop for Monsanto’s decision. It seems well-established at the federal level that government regulatory decisions related to biotech crops and foods should be made on the basis of traditional health and environmental concerns. At the state level, however, the potential economic impact of particular biotech crops on agricultural producers is felt more acutely, and their interests are more readily brought to bear through the political process. It seems likely that agricultural and other interest groups will continue to bring their concerns about biotechnology—pro and con—to state government.

This political dynamic raises important public policy questions about what if any role government should play in making choices concerning agricultural and food technologies that are based on economic and social issues, and about the impact of state-level decisions on the national market and regulatory system. Some would argue that the states should leave these decisions to the marketplace and that state-by-state action would be economically disruptive and in conflict with the national and international reality of our food and agricultural system. Others would contend that the states have a legitimate role to play in protecting local economic interests and that the economic and social consequences of some technology decisions are important enough to warrant government intervention.

An underlying issue in this policy debate concerns the legal power of states to restrict or prohibit particular applications of agricultural biotechnology on economic or social grounds. This is a complicated question of constitutional law for which there is no definitive answer, and a full analysis of the issue is beyond the scope of this report. The express preemption provision in the PPA and FIFRA’s provisions concerning the authority of the states do not apply, because they address the power of states to regulate for plant health and environmental purposes that are the concern of those federal laws.

The issue must be considered in light of broader principles arising under the Supremacy Clause and the Commerce Clause of the U.S. Constitution. Under our federal system, states have broad power to act to protect the welfare of their citizens, and, under the Tenth Amendment to the Constitution, powers not delegated to the federal government—such as the power to regulate purely local matters—are specifically reserved to the states. On the other hand, the Commerce Clause gives the federal government broad powers to regulate matters in or affecting interstate and foreign commerce and the Supremacy Clause makes laws properly enacted by Congress the supreme law of the land. Moreover, the federal jurisdiction to regulate foreign commerce is exclusive: states are precluded from any role in regulating foreign commerce.
Under the Supremacy Clause, the federal government would likely have the power to prohibit states from blocking the planting of biotech crops and foods on economic or social grounds if it chose to exercise that power—that is, if Congress passed a law finding that decisions about planting biotech crops and foods, even within a state’s own borders, have an important impact on interstate commerce and establishing as the policy of the federal government that any consideration of economic or social issues must occur at the federal level.

Congress has, of course, not passed such a law, and thus the question is whether, in the absence of a binding federal policy on consideration of economic and social issues, the states are free to act. This question would turn on application of the Supremacy and Commerce clauses. Under the Supremacy Clause, preemption of state law can be express (as when Congress declares its specific intent to displace state law) or implied (as when a state law conflicts with or interferes with achieving the objectives of federal law, or operates in an area that Congress intended to control exclusively).

Express preemption under the Supremacy Clause does not operate here because the PPA’s preemption provision only preempts state regulation for plant pest and noxious weed control purposes; it does not address the preemption status of state actions to address broader environmental, economic, or social concerns. Thus, the first question in this Supremacy Clause implied preemption analysis would be whether a state restriction on a particular application of agricultural biotechnology, based on economic or social grounds, directly conflicts with some federal law concerning interstate commerce or interferes with achieving the objectives of the federal law. The second question is whether the federal government has fully occupied the field of decisionmaking about the planting of biotech crops and foods. In considering the first question, it is important to note that it is not enough for the executive branch of the federal government to have a policy on the question at hand; for implied preemption of a state law to occur, there must be a federal law with which the state law conflicts or whose objectives it frustrates.

Thus, under the doctrine of implied preemption, the practical questions appear to be: Is there a statutory policy at the federal level that precludes consideration of economic and social concerns at the state level or that would be frustrated by state action taken on that basis? Do the federal regulations administered by APHIS, EPA, and FDA fully occupy the field of decisionmaking about the planting of biotech crops and foods?

The Commerce Clause, which places the power to regulate interstate commerce in federal hands, raises similar questions. States are clearly prohibited from acting in ways that discriminate against interstate commerce. However, if the effects on intrastate and interstate commerce are even-handed, states are not precluded by the Commerce Clause from taking local actions that have incidental effects on interstate commerce, provided the burdens on interstate commerce are not clearly excessive in relation to the
local benefits of the action. On the other hand, if a state action is found to undermine the purposes of the Commerce Clause—in terms of having a well-functioning national economy—courts may preclude such action.

Finally, suppose a state sought to prohibit the growing of a particular biotech crop, such as RR wheat, specifically for the purpose of preserving access to foreign markets for its growers of conventional wheat. The express preemption provision of the PPA would not apply, and it is not clear on what basis such state action could be deemed preempted by implication under the Supremacy Clause. There is no clearly conflicting federal policy on the subject. In addition, the federal government arguably has not totally occupied the field of decisionmaking because its market entry standards for biotech crops and foods address only health and environmental concerns, not access to foreign markets or other economic and social concerns. Under the Commerce Clause, a balancing test applies to a state law regulating or affecting interstate, but nonforeign, commerce: the question under this test is whether the effects on interstate commerce are incidental and are outweighed by the local benefits. If so, the state action can stand.

But, what about the total exclusion of states from regulating foreign commerce? Does a state ban or restriction on the planting of a biotech crop for purposes of protecting the access of a state’s farmers to foreign markets constitute regulation of foreign commerce? A state taking such action might argue that it is merely regulating local behavior for the benefit of its own citizens and that foreign commerce per se and parties outside the state are not affected. A party opposing such action might argue that access to foreign markets by U.S. producers is a national concern and that any state action that attempts to influence such access directly affects foreign commerce and conflicts with the exclusive federal jurisdiction to regulate foreign commerce. Clearly, if a court found that it was the intent or effect of a state action to regulate foreign commerce, such action would be constitutionally barred.

The purpose of reciting these principles and arguments is not to answer the question about whether a state could prohibit the introduction of a biotech crop or food for economic or other social purposes. The factual and legal issues that would be involved in the event a state took such action could vary widely and are likely to be complex. The result of a legal challenge would, in the end, turn on the circumstances of the particular case and thus is unpredictable. These principles suggest, however, that the questions that would be debated in a legal setting are not very different from the ones that should be considered from a policy perspective. They have to do with how, in our national economy and federal system of government, we reconcile local interests with the interests of our broader society. Fortunately, these issues are more often than not worked out through the political and policy process, or, as in the case of RR wheat, in the marketplace, rather than in the courts.

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