

Docket No. APHIS-2007-0044  
Regulatory Analysis and Development  
PPD, APHIS, Station 3A-03.8  
4700 River Road Unit 118  
Riverdale, MD 20737-1238

Subject: Docket No. APHIS-2007-0044

The WORC (Western Organization of Resource Councils) and Dakota Resource Council (DRC) appreciate the opportunity to comment on USDA's Draft Environmental Impact Statement (EIS), Glyphosate-Tolerant Alfalfa Events J101 and J163: Request for Nonregulated Status.

WORC is a regional network of grassroots organizations from seven states that include 10,000 members and 44 local community groups. WORC strengthens its member groups and local community chapters by coordinating regional issue campaigns and by providing training and leadership development, technology assistance, communications and media, and representation in Washington, DC. WORC and its seven state groups in Colorado, Idaho, Montana, North Dakota, South Dakota, Oregon and Wyoming are membership-based organizations. Our members are farmers, ranchers, small business owners, educators and other working men and women who represent our region.

Dakota Resource Council has done rural community organizing in North Dakota since 1978, empowering people to participate in public decision-making on energy, agriculture and land use issues that affect their livelihoods and quality of life.

In January 2005, WORC submitted comments urging APHIS to prepare an EIS on its decision whether to deregulate Monsanto's Roundup Ready alfalfa. In February 2008, WORC also submitted comments on the scope of the Court-ordered EIS. WORC repeatedly said that the EIS should "analyze the potential economic impacts of commercial release of the crop on U.S. alfalfa producers and livestock producers."

WORC feels that APHIS and USDA have fallen far short of providing a true picture of economic or environmental impacts of the commercial release of GE Alfalfa. These comments focus on issues of most importance to WORC and its members. These issues should have been thoroughly covered in the draft EIS but were not adequately analyzed, despite the Court's direction.

The central flaw of the draft EIS is its failure to analyze the "real life" impact of the deregulation of genetically modified (GM) alfalfa. It failed to address the contamination of non-GM alfalfa which will inevitably follow unfettered deregulation. It failed to recognize the impact non-GM alfalfa hay and seed growers, organic meat and livestock producers; producers of 'natural' beef, lamb, and other meat and livestock marketed with source-verification claims related to feed; dairy producers; and conventional and organic honey producers.

In the draft EIS, APHIS refused to recognize the potential economic impacts of deregulation on farmers and the impacts to the environment. WORC believes these two issues go hand in hand and one cannot be evaluated without the other.

In our petition<sup>1</sup>, we noted this issue and the connection between the economic and environmental impacts of releasing Roundup Ready alfalfa. *Nearly 80 million tons of alfalfa is grown each year on 22 million acres in the U.S., according to USDA statistics. Nearly 90 million tons more is grown and harvested in mixed hay production on 40 million more acres. Feral and volunteer alfalfa is ubiquitous in the West.* The potential cost of any unintended adverse agronomic, environmental or economic impacts of release of Roundup Ready alfalfa are large, and are largely unexamined in the EIS.

The finding in the EIS on the economic impacts to conventional and organic farmers is deficient. First, it assumes that the responsibility for preventing contamination of conventional and organic production falls on the organic or conventional producer, rather than on the manufacturer of this alfalfa variety or the farmers who grow it. Second, it fails to *make any provisions for segregation* of GM alfalfa from conventional alfalfa. APHIS failed to evaluate, require or describe steps that Monsanto or those who buy and plant its Roundup Ready alfalfa seed could take to minimize or eliminate contamination of neighboring crops or to limit the spread of volunteers.

In our January 2005 comments on the Environmental Assessment and our February 2008 comments on the scope of the EIS, WORC said USDA should prepare a full EIS, and made this suggestion about the scope of the EIS:

*The EIS should examine whether, how, and at what cost Roundup Ready alfalfa can be kept separate from conventional, organic, and other alfalfas and hays containing alfalfa. The EIS should analyze the economic costs of contamination to producers of organic, natural, and conventional alfalfa seed, grass, hay, honey, livestock, meat, milk, and other foods.*

The last question in topic area, #10, in the list of questions to address in the EIS is:

*To what extent can organic or conventional alfalfa farmers prevent their crops from being commingled with unwanted, unintended, or unexpected glyphosate-tolerant alfalfa?*

While this question should have been expanded so that the EIS addressed *the extent to which the owners (Monsanto, Forage Genetics, and associated seed companies) and growers of GM alfalfa can prevent their product from unwanted, unintended, and unexpected commingling and contamination of non-GM alfalfa*, the draft EIS did not even address the question the agency itself posed.

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<sup>1</sup> See *Petition Seeking an Environmental Impact Statement Concerning the Deregulation of Genetically Engineered Wheat Varieties*.

Similarly, the EIS did not analyze any realistic measures organic or conventional alfalfa farmers would have to take to prevent their crops from being commingled with unwanted, unintended, or unexpected glyphosate tolerant alfalfa; or the cost of commingling and contamination, to the extent that is not or can not be prevented. By refusing to provide workable solutions to prevent contamination, the EIS falsely implies that there will be no contamination and ignores the costs of that contamination.

The EIS maintains that avoiding contamination is the conventional or organic farmers' responsibility. According to the draft EIS "Growers who wish to avoid gene flow (e.g., those who produce hay for markets that reject GM crops) should pay attention to flowering habits (avoiding simultaneous flowering) and harvest schedules, and disallow or remove commercial beekeepers' hives. Although the hay harvest date can be delayed a week or more by wet weather or equipment failure, harvesting before the ripe seed stage is possible in all but the most extreme circumstances."

This absurd assertion on the part of the EIS because it fails to recognize that an alfalfa producer cannot require set backs of bee colonies from their fields and cannot prohibit the placement of hives and apiaries on others' private property. Furthermore, producers have no way of controlling wild pollinators, wind, water and other natural forces that move seed and pollen from field to field.

Additionally, the idea that "harvesting before the ripe seed stage is possible in all but the most extreme circumstances," is disingenuous. The EIS contends that alfalfa is "typically" harvested before 10% of flower. While it is true that the prime protein level of alfalfa hay is at 10% blossom, weather conditions, haying practices and erosion controls allow that a significant number of blossoms to come to full bloom. In many areas across our region, climate does not allow for multiple harvests of alfalfa hay and full growth is often necessary for sustaining an alfalfa stand. This "typical" scenario has one more major flaw for farmers who grow alfalfa for seed. In order to combine alfalfa seed, the plant must go to full bloom. Therefore, this analysis of cutting alfalfa at 10% blossom is atypical at best.

The EIS did not examine whether, how, and at what cost to farmers Roundup Ready alfalfa can be kept separate from conventional, organic, and other alfalfas and hays containing alfalfa. USDA cannot assume that there is a "typical" scenario in alfalfa production and that any one-size-fits-all model can be used to control GM contamination. In North Dakota, for example, there are a number of different methods and purposes for growing and utilizing alfalfa. It is clear that preventing contamination under any of these situations cannot be achieved through the faulty assumptions given in this EIS.

Following are four different scenarios from the state of North Dakota. Each farmer raises alfalfa for different reasons and under very different conditions, demonstrating that the one-size-fits all approach to avoiding contamination is impossible in one state, let alone the whole nation.

DeJon Bakken, a rancher from Adams County, utilizes his alfalfa crop as hay for his own herd and grazing. He begins haying the alfalfa as close to 10% bloom as possible, however, by the time the entire crop is hayed, much of it is much past the ideal protein and bloom levels. In the southwest corner of North Dakota it is rare to get a second cutting of hay, so Bakken leaves the growth to use as range grazing. In this scenario, the regrowth is at 100% bloom before he is able to move the bales off the pasture, utilize his prairie grass and move the cattle to graze the alfalfa. This practice not only leaves late summer and fall grazing for livestock, but also adds cover to the field to help in catching snow for spring moisture and cover for wildlife throughout the winter.

Duane Boehm is an organic farmer in Stark County, who farms only 60 miles north of Bakken, but has a very different operation. He markets organic crops and uses alfalfa as part of his crop rotation. Boehm is surrounded by an interstate highway, railroad and miles of county road as well as private farm and ranch land. Boehm recognizes that he has no control over seed that is spread through these transportation systems. In addition, Boehm combines his own alfalfa seed which requires the field to grow to full maturity. In an organic system, if genetic material finds its way on to his farm knowingly or unknowingly he will lose his certification. GM contamination of his alfalfa would be a major financial hit to Boehm's family and the consumers he has worked with for over 20 years. To add insult to injury, Boehm recognizes that GM alfalfa is already in his area and knows of eight locations within 20 miles of his farm where Roundup Ready Alfalfa was grown.

Blaine Schmaltz a farmer from Rugby in Central North Dakota has already seen the ramifications GM alfalfa has on his organic market. As a Certified Organic seed supplier of alfalfa and alfalfa hay, he supplies feed to Certified Organic dairies and supplies organic sprouting seed to foreign markets. Schmaltz has already been affected financially by the initial release of Roundup Ready alfalfa. He had a large order of alfalfa sprouting seed for overseas shipment cancelled in the spring of 2006 over fear of contamination of the sprouts. Since that time, Schmaltz has not been able to secure that customer's confidence since GM alfalfa was released in the United States. Under certified organic rotation requirements most alfalfa seed stands have to be replaced every 3 to 4 years. Schmaltz will have to test and attempt to find GM free seed stocks. This will prove to be very costly for both the farmer and the seed company. The lack of natural barriers to control seed pollination contamination will result in the loss of seed availability, which, in turn results in loss of seed companies and consolidation, creating an economic loss to the entire food system.

Todd Leake, a conventional farmer from Emerado in northeast North Dakota, grows his alfalfa primarily as a soil nutrient and organic matter builder in his rotation. In this region of the state, alfalfa is planted on the field margins for conditioning in salt affected soils to add organic matter and nitrogen, some of it is hayed and some of it is not hayed. This is a common method of dealing with salt affected soils.

In his operation, Leake commonly hays two cuttings of alfalfa each year and leaves the third cutting to go to full bloom. Because alfalfa is used in a crop rotation, conventional

farmers then spray the alfalfa field to “burn down” the existing plants and grow a new crop the next year. If alfalfa is contaminated with Roundup Ready traits, Leake will have to use a less effective broadleaf contact herbicide such as MCPA-Ester or Amine formulation, or 2,4-D Ester or Amine formulation. Contact herbicides are much less effective than glyphosates against mature alfalfa for stand removal and certainly cultivation is not adequate for Leake’s conventional operation.

The EIS also failed to analyze the economic costs of contamination to producers’ conventional and organic alfalfa and the foods derived from them. Roundup Ready alfalfa may also spread by crossing with feral alfalfa, through the spread of volunteer plants, through wind and water erosion, and by the transport, feeding and digestion of feed.

The EIS should have analyzed whether and to what extent segregation of GM from conventional alfalfa is possible. The questions outlined by APHIS for its proposed scope of the EIS appear to get at this under items #16 and #17, but the EIS still did not evaluate whether *any of the potential negative environmental and economic impacts resulting from the deregulation of glyphosate-tolerant alfalfa can be mitigated and the likelihood that mitigation measures will be successful* – that is, whether “coexistence” (see #17) is practical or possible. The EIS simply ignores the possibility, thus the problems comingling creates.

The EIS fails to analyze the potential acceleration in the development of Roundup resistant weeds. Widespread adoption of Roundup Ready technology in corn and soybeans has led to increasing problems with Roundup-resistance. Widespread planting of Roundup Ready alfalfa will worsen this problem, especially where alfalfa is used in rotation with other Roundup Ready crops. Increasing Roundup resistance will lead to use of herbicides with relatively greater environmental impacts, and to increased costs for both adapting and non-adapting farmers.

According to “The Feral Nature of Alfalfa and Implications for The Co-Existence of Genetically Modified (GM) and Non-GM Alfalfa” by Muthukumar V. Bagavathiannan and Rene C. Van Acker, the establishment, presence and persistence of feral alfalfa populations will have implications for the release of GM alfalfa as these populations will serve as reservoirs for novel traits and act as bridges for long-distance gene flow. As such, feral alfalfa is a barrier for the successful co-existence of GM and non-GM alfalfa. Strict adherence to purpose designed stewardship practices can help minimize the potential of GM trait escape into feral and non-GM alfalfa and increase the chances of successfully achieving coexistence between GM and non-GM alfalfa.<sup>2</sup>

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<sup>2</sup> The Feral Nature of Alfalfa and Implications for The Co-Existence of Genetically Modified (GM) and Non-GM Alfalfa

Muthukumar V. Bagavathiannan<sup>1</sup> and Rene C. Van Acker<sup>2</sup>

<sup>1</sup>Department of Plant Science, University of Manitoba, Winnipeg, MB, Canada, R3T 2N2

<sup>2</sup>Department of Plant Agriculture, University of Guelph, Guelph, ON, Canada, N1G 2W1

The problems of contamination for organic growers through comingling cannot be ignored. Organic farmers cannot tolerate any GE contamination of their alfalfa. If contamination is found, despite all of the precautions taken, the farmer will lose a certification and market that took years and hard work to establish. Losing this market affects both the farmer and his customers, who may have to go farther for their organic hay and pay more for it. The long term result is to make organic food more expensive and to take away the right for consumers to choose what they want to eat because it is financially out of reach.

The EIS assumes that consumers will not reject GM contaminated organic alfalfa if the contamination is unintentional or not transmitted to the end product. However, prohibition of GM is a fundamental tenet of the Organic Standard. This Standard requires that livestock feed for animals used for organic meat, milk, eggs and other animal products is 100% organic. Protecting organic alfalfa, the main source of feed for organic dairies is crucial to the health of that popular and important sector of U.S. agriculture.

Just the potential for contamination can also be harmful to organic farmers. If GM alfalfa is deregulated, organic markets will need proof that the hay and seed they are buying is completely GM free. Therefore the organic farmer is under the burden to prove his or her crop is not contaminated. These tests are very expensive and cumbersome. If the alfalfa tests required are the same as requirements for other crops, farmers will have to have individual tests for each field and tests each time that field is harvested. In the case of alfalfa this could mean a multiple tests on the same field each year.

Furthermore, the assumptions that GM alfalfa contamination should or can be controlled by the farmer are obviously flawed when we look at another USDA program that specifically prevents this control. The Conservation Reserve Program (CRP) utilizes alfalfa in their seed mixes that are planted in newly enrolled land in the upper Midwest and the West.

According to the Natural Resource Conservation Service (NRCS) of USDA, “Haying and grazing of CRP acreage is authorized under certain conditions to improve the quality and performance of the CRP cover or to provide emergency relief to livestock producers due to certain natural disasters.”

NRCS reports that, “Generally, CRP acreage may not be hayed or grazed during the Primary Nesting Season for certain wildlife established by state FSA committees in consultation with USDA's Natural Resources Conservation Service (NRCS) State Technical Committee.” This period is long after the pollination of alfalfa and other legumes has occurred.

In the area of “Managed Haying and Grazing”, NRCS authorizes haying and grazing no more frequently than one out of every three years “after the CRP cover is fully established.”<sup>3</sup>

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<sup>3</sup> United States Farm Service Agency, Conservation Programs, Emergency Haying and Grazing

In the West it is common practice to utilize that hay by cutting one third of a field each year, allowing two thirds of the field to go to seed each year. There is no way to prevent pollination, or the spreading of seed in this or other CRP haying and grazing scenarios.

The EIS assumes that pollinating insects, like bees can be controlled in nature. These insects travel many miles to collect and deposit pollen and the idea that farmers can control their neighbor's beehive locations or natural movement of insects is short sighted. The EIS also failed to analyze the impact of introduction and widespread use of GM alfalfa (and the associated increase in the use of Roundup on alfalfa fields) on bees and on both conventional and organic honey producers.

Furthermore, the Court found in the lawsuit that required this EIS, to "farmers and consumers organic *means not genetically engineered, even if the farmer did not intend for his crop to be so engineered.*" Whether or not the end product is impacted is not the issue. Farmers' fundamental right to sow the crop of their choice and consumers right to eat the food for their choice is eliminated when that food or the feed used to grow that food is contaminated with GM Alfalfa.

As we have seen in other species where GM crops have been deregulated, this deregulation eventually takes away the farmers' right to plant the crop of their choice. Seed developers begin to "stack" the best traits of the seed into the GM seed. In order to get the traits they need for their area, farmers are forced to buy traits they don't need at a higher cost. In some cases this requires planting GM crops where they are not wanted or needed in order to get a trait they DO need, but can only be found in the GM variety.

The impact of widespread contamination of organic alfalfa hay by GM alfalfa also must take into effect the availability of organic feed for dairy cattle, the costs to organic dairy farmers and the organic dairy industry, and on the price of organic milk to consumers.

The EIS makes no mention of analysis of the impact of the Roundup Ready alfalfa already planted. It would seem logical for APHIS to collect data and conduct tests on the location and extent of GM alfalfa planted before and after deregulation (and before the court-ordered injunction), and the extent to which nearby non-GM alfalfa seed and hay fields and the conventional seed supply contains GM traits.

Although one of APHIS's proposed scoping questions (especially #8) addressed issues related to the likely increase in Roundup-Resistant weeds, and associated environmental impacts, the EIS did not address it significantly. The economic impact of such increases and environmental impacts on alfalfa growers has not been properly studied.

The Federal District Court decision ordering preparation of this EIS found that USDA acted arbitrarily and capriciously in not evaluating "the extent of likely gene transmission from genetically engineered seed crops to non-engineered seed crops." The Court also found that "APHIS failed to consider... that because of weather—which is beyond a farmer's control--a farmer cannot always harvest his field at the most optimal time.

APHIS made no inquiry into how often farmers are actually able to harvest their forage crop before seeds mature and no inquiry into the likelihood of gene transmission when they cannot.”

It is clear that USDA and APHIS did not take the direction from the court or the comments raising concerns about the introduction of GM alfalfa seriously; as the draft EIS fails to further address the very problems that remained after the original EA was published in 2004.

WORC will be glad to provide any information that will help produce a thorough, credible analysis of the environmental and economic impacts of the introduction of genetically modified alfalfa.

Sincerely,  
Todd Leake  
Emerado, ND  
WORC No GM Crops Campaign Chair