

Adoption of Environmental Assessments for Determination of Non-Regulated Status for Genetically Modified Crop Seeds for Use on Selected Refuge Lands, Region 4 of the United States Fish and Wildlife Service

Background

Genetically Modified Crop seeds (GMCs) are agricultural plants with inserted DNA extracted from sexually incompatible organisms *in vitro*. This genetic modification allows seeds to be resistant to certain herbicides, and the result is typically more environmentally friendly agricultural practices. For example, the use of GMCs reduces the number of more toxic pesticides needed to grow crops by over 50% compared to non-GMC seeds.

The use of GMCs has become a prominent feature of American agriculture. Currently, 69% of refuge agricultural lands in Region 4 of the U.S. Fish and Wildlife Service (Service) use GMC seeds, while the remaining 31% agricultural lands use conventional, non-GMC seed.

Other GMCs have and continue to be developed by the agricultural industry. Examples include Liberty-Link Corn, and Bt varieties of both corn and soybean seeds, among many others. A complete list of currently non-regulated GMC seed is available at http://www.aphis.usda.gov/biotechnology/not_reg.html. The list of non-regulated GMC seeds will be listed under the “granted” section.

GMCs are regulated by the Department of Agriculture, Animal and Plant Health Inspection Service (APHIS). APHIS evaluates each GMC through extensive scientific evaluation and regulatory process before granting non-regulated status, as described at <http://www.aphis.usda.gov/regulations/index.shtml>. Any proposed move to non-regulation is described in an Environmental Assessment (EA) posted on the website http://www.aphis.usda.gov/biotechnology/not_reg.html to meet the agency’s compliance responsibilities under the National Environmental Policy Act (NEPA). In addition, the Environmental Protection Agency (EPA) also evaluates any pesticides associated with the use of GMCs for general environmental affects, while the Food and Drug Administration evaluates the potential impact on food safety.

The Service proposes to adopt the Environmental Assessments of APHIS to meet its obligations under NEPA for the continued use of non-regulated GMCs on Region 4 refuge farm lands. The Service believes that the detailed and extensive analysis used by APHIS in granting non-regulated status to a particular GMC is relevant and appropriate for the farming programs in Region 4.

Purpose and Need for the Proposed Action

All refuges have a primary mission of protecting and conserving Fish and Wildlife for use and enjoyment by the public of the United States. The formal mission statement is: *The Mission of the National Wildlife Refuge System is to administer a nationwide network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.*

Twenty five refuges in Region 4 have agriculture as part of their mission. Each of these refuges has their own pre-determined Migratory Bird Use Day/ farming objectives incorporated into their Comprehensive Conservation Plans (CCPs). Farming is a needed and critical technique used by Refuge Managers to insure that enough food will be available for various species of migratory birds, particularly migratory waterfowl. The Service's website <http://www.gws.gov/> provides an overview of the refuge mission, along with links to each refuge webpage in Region 4.

The need to reduce contamination of soil, water and air associated with the use of herbicides, as implied in guiding principals for the refuge system, also critical factors in considering and evaluating alternatives for the use of GMCs. Budget limitations are also a critical factor in choosing practical alternatives.

Alternatives Considered and Preferred Alternative

Given the current mission, management, and budget goals of the Refuge system in Region 4, two alternatives are proposed. These alternatives are to 1) discontinue the use of non-regulated GMCs on refuges with farm programs or 2) continue planting a mixture of non-GMC and GMC crop seeds in conjunction with our Regional GMC Policy

The preferred alternative is to continue to use GMCs as a part of refuge farming programs in Region 4. The Service proposes to adopt the Environmental Assessments of APHIS to meet its obligations under NEPA, as listed on the APHIS website at http://www.aphis.usda.gov/biotechnology/not_reg.html.

General Environmental Impacts Assessment in APHIS EAs

Each APHIS EA includes a detailed analysis for each GMC, including the current agricultural status of the subject crop and the target effect of the genetic modification on a national scale. Each EA also includes a detailed, nationwide analysis of the consequences of continued regulation of a particular GMC. Typically, the analysis includes nationwide effects on agricultural production with and without deregulation; impacts on insect control practices; the potential impact on non-target organisms, including beneficial organisms and threatened or endangered species. Also included is an analysis of potential impacts on birds and mammals and arthropods, as appropriate for each proposed deregulation petition.

The factors discussed in these impact assessments are appropriate to the Region 4 refuge farming program, given the geographic extent, ecological diversity, and extensive agricultural industry of the region.

Environmental Scope and Impacts for the Region 4 Refuge Farm Program

Twenty-five refuge and/or refuge complexes have indicated a need and justification for using GMCs in their agricultural program. These refuges are:

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| 1. Santee NWR | 9. Central Louisiana Complex | 17. Pocosin Lakes NWR |
| 2. North Louisiana Refuges Complex | 10. Mattamuskeet NWR | 18. Eufaula NWR |
| 3. Theodore Roosevelt Complex | 11. Wheeler NWR | 19. Felsenthal NWR |
| 4. Tennessee NWR | 12. Key Cave NWR | 20. St. Catherine Creek NWR |
| 5. Cache River NWR | 13. Clarks River NWR | 21. White River NWR |
| 6. Wapanocca NWR | 14. North Mississippi Complex | 22. Lacassine NWR |
| 7. West Tennessee Complex | 15. Holla Bend NWR | 23. Alligator River NWR |
| 8. Bald Knob NWR | 16. Noxubee NWR | 24. Pee Dee NWR |
| | | 25. Tensas NWR |

The total estimated acreage potentially affected is 44,317 acres for all 25 refuges listed above. It is important to note that, on a given year, 69% of this acreage is planted in GMCs; the remaining 31% is non-GMCs. These percentages may vary slightly from one year to the next. It is also important to emphasize that this acreage includes only 25 refuges out of 120, dispersed over 10 states, territories, and commonwealths.

Climate Change

The adoption of GMCs in Region 4 will not have any significant effect on the emissions of greenhouse gases; it is likely that the reduction in the need for the application of

pesticides and herbicides will in turn reduce the emissions from transportation, storage, and application of pesticides and herbicides.

Endangered Species and Migratory Birds

APHIS and the EPA, as a part of their risk assessment, consider potential risks of any GMC to migratory birds and endangered species before granting non-regulatory status. A discussion and analysis of this risk assessment is included in all EAs proposed for adoption. In addition, Service policy requires that Section 7 consultation be completed for any action that may affect or is likely to affect trust species.

Biological Consequences

During normal day-to-day farming activities, pest species can over time develop resistance to pesticides if the crop and/or pesticides are not properly rotated. Region 4 has an approved Regional GMC Policy which requires a GMC rotation every four years. (See appendix A)

As an example, if RoundUp Ready crop seeds have been planted for three consecutive crop years on the same farm field, Region 4's Regional GMC Policy requires that a non-RoundUp Ready crop seed must be planted on that farm field the fourth year.

Gene flow refers to the movement of genetic material from the GMCs to cultivated and/or wild relatives via cross pollination, potentially resulting from genetic contamination. Wild relatives of corn, soybeans and milo are not known to be present in the United States at this time; as a result, the EAs conclude that this type of risk is not relevant.

Economics, Social Context and Environmental Justice

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" was signed by President Clinton on February 11, 1994, to focus federal attention on the environmental and human health conditions of minority and low-income populations. The Order directed federal agencies to develop environmental justice strategies to aid in identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations

None of the preferred alternatives described in the EAs proposed for adoption would disproportionately place any adverse environmental, economic, social, or health impacts on minority and low-income populations. Each EA contains an analysis of relevant executive orders, standards and treaties related to the potential environmental impacts of each proposed deregulation case. This includes EO 13045 "Protection of Children from Environmental Health Risks and Safety Risks".

The analysis for EO 13045 may include such topics as degree of toxicity to children, the general public; minority populations, and populations such as farm workers who are likely to be in frequent contact with a given GMC. The research results indicate no effects are known to any human group, and no additional safety precautions would need to be taken for the GMCs currently included in the non-regulated status. Other factors, such as the reduction of pesticide applications, may be a beneficial effect on children, farm workers, and minority populations.

Finally, the EPA and USDA Economic Research Service will monitor the use of GMC products to determine impacts on agricultural practices. The results of this monitoring will provide further safety and efficiency guidance over time as real-world data is collected on the effects of a particular GMC in the environment.

The use of GMC crops will not substantially change Service agricultural policy or the economic impact on refuges or their surrounding communities. There will be no significant changes in the scope and location of agricultural activities on the refuges. Therefore, there will be no significant economic effects on local communities or minority populations in any local communities in the vicinity of the 25 refuges with agricultural programs.

Public Involvement

Availability notices for each draft APHIS EA are published in the Federal Register. Copies of the draft EA are available from APHIS, and comments are solicited from the public with the same notice. Comments may be made by email or by regular mail for a 30 day period.

The Service will post this proposal to adopt the APHIS EAs at the refuge headquarters of each of the 25 refuges listed previously. In accordance with Service policy, this proposed adoption document will be available for comment for 30 days before any decision is made. Comments will be collected, analyzed, and used as part of the decision making process for this issue.

Cumulative Impacts

Typically, each EA contains a detailed nationwide analysis of the potential cumulative effects of deregulation of a specific GMC. The analysis typically includes such relevant factors as the long term and cumulative effects on genetic purity and diversity and on threatened and endangered species.

Region 4's GMC policy will limit the scope and effects of GMCs on refuge lands and surrounding lands and communities. The use of GMCs will make refuge farming more efficient and effective, but the specific use of GMCs on any refuge will be decided on a case by case basis using the guidance provided in the regional policy on GMCs. In particular, the guidance provided for crop rotation will avoid the potential negative

effects of GMCS. The Service policy and use of GMCs will not effect or interact with local planning; communities; or landscapes.

Analysis by the Service

The Service believes that the detailed and extensive analysis used by APHIS in granting non-regulated status to a particular GMC is relevant and appropriate for the farming programs in Region 4. Complete lists of currently non-regulated GMC seeds are available at http://www.aphis.usda.gov/biotechnology/not_reg.html. The Service has critically and independently reviewed these documents, and believes that the scope, nature, scale and issues analyzed are appropriate for the proposed continued use of GMCs in Region 4.

The list of non-regulated GMC seeds is listed under the “granted” section of that website.

Therefore, the Service proposes to adopt the EAs completed and listed by APHIS on the website referenced above to comply with its responsibilities under NEPA and its responsibilities under Department of Interior authorities and regulations, and under Service regulations for NEPA compliance for the National Wildlife Refuge System.