U.S. Department of Energy
Categorical Exclusion Determination Form

Submit by E-mail

Proposed Action Title: (0470-1527) Texas AgriLife Research - Synthetic Crop for Direct Drop-in Biofuel Production through Re-routing the Photorespiration Intermediates and Engineering Terpenoid Pathways

Program or Field Office: Advanced Research Projects Agency - Energy

Location(s) (City/County/State): College Station, TX; Lexington, KY; Orlando, FL; Urbana-Champaign, IL; Blacksburg, VA

Proposed Action Description:

Funding will support development of genetically modified (GM) tobacco that produces high-value biofuel products (terpenoids) and has improved means of storing these products in the plant. Funding will also support development of transformation tools for genetically modifying Arundo donax.

Proposed work will consist of (1) laboratory-based development of recombinant DNA molecules and genetic modification of tobacco and Arundo donax; (2) indoor growth of the resulting GM tobacco and GM Arundo donax plants in contained growth chambers and indoor growth of the resulting GM tobacco plants in greenhouses; and (3) laboratory-based analysis of the resulting GM tobacco and GM Arundo donax plants using standard techniques. This project will not involve field testing with GM plants.

Proposed genetic modification, growth, and analysis of GM tobacco will take place at the Texas Agrilife Research (TAMU) facility in College Station, TX; the University of Kentucky campus in Lexington, KY; the University of Central Florida campus in Orlando, FL; and the University of Illinois campus in Urbana-Champaign, IL. Proposed genetic modification, growth, and analysis of Arundo donax will take place at the TAMU facility in College Station, TX. Proposed development of recombinant DNA molecules will take place at the Virginia Tech campus in Blacksburg, VA. Activities involving recombinant DNA molecules and GM plants will take place at facilities that adhere to BSL-1 containment standards. Participants will receive approval from their respective Institutional Biosafety Committees for work involving recombinant DNA molecules.

Categorical Exclusion(s) Applied:

B3.6 - Small-scale research and development, laboratory operations, and pilot projects

For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, including the full text of each categorical exclusion, see Subpart D of 10 CFR Part 1021.

Regulatory Requirements in 10 CFR 1021.410(b): (See full text in regulation)

☑ The proposal fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D.

To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

☑ There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal.

☑ The proposal has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

Based on my review of the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1B), I have determined that the proposed action fits within the specified class(es) of action, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

NEPA Compliance Officer: Matt D

Date Determined: 12/06/2011