

**IOWA STATE UNIVERSITY**  
**Institutional Biosafety Committee**

## **IBC Review of Plant Pathogens**

### **Scope**

This policy applies to all research and teaching with plant pests at Iowa State University, regardless of funding.

### **Definitions**

*Biological control organism*: any enemy, antagonist, or competitor used to control a plant pest or noxious weed.

*Genetically modified organism (GMO)*: an organism whose genetic material has been altered using genetic engineering technologies.

*Noxious weed*: any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the United States, the public health, or the environment.

*Plant*: any plant (including any plant part) for propagation or capable of propagation, including a tree, a tissue culture, a plantlet culture, pollen, a shrub, a vine, a cutting, a graft, a scion, a bud, a bulb, a root, and a seed.

*Plant pest*: any living stage of any of the following that can directly or indirectly injure, cause damage to, or cause disease in any plant or plant product, including a protozoan, a nonhuman animal (including an arthropod), a parasitic plant, a bacterium, a fungus, a virus or viroid, an infectious agent or other pathogen, a plant-associated organism, or any article similar to, or allied with, any of the foregoing.

*Plant product*: any flower, fruit, vegetable, root, bulb, seed, or other plant part that is not included in the definition of plant, or any manufactured or processed plant or plant part.

*Recombinant or synthetic nucleic acids*: either molecules that i) are constructed by joining nucleic acid molecules and b) that can replicate in a living cell, i.e., recombinant nucleic acids; (ii) nucleic acid molecules that are chemically or by other means synthesized or amplified, including those that are chemically or otherwise modified but can base pair with naturally occurring nucleic acid molecules, i.e., synthetic nucleic acids, or (iii) molecules that result from the replication of those described in (i) or (ii) above.

### **Background**

It is the policy of Iowa State University that all research and teaching involving hazardous biological materials either performed at, or sponsored by, the University be conducted in a manner that does not pose significant risk to the health and safety of laboratory workers, the public, or the environment.

The Plant Protection Act (Title IV of U. S. Public Law 106-224) regulates the movement of plant pests, plants, plant products, biological control organisms, noxious weeds, and articles capable of harboring plant pests or noxious weeds.

The role of the Iowa State University Institutional Biosafety Committee (IBC) is to assure the safe acquisition, use, and disposal of all hazardous biological materials at the University. The IBC must review and approve all experiments to genetically engineer organisms by recombinant or synthetic nucleic acid molecule methods and to use such organisms for experimental purposes, unless the organisms are commercially available or have been deregulated by a federal agency.

Work with Iowa species of non-genetically modified plant pests may not be regulated by federal permit requirements based on the Plant Protection Act and is not covered by the NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules. Such work presents a much lower risk for the environment than work with genetically modified organisms or work with species not present in Iowa.

Consistent with assuring the safe acquisition, use, and disposal of all biological agents at Iowa State University, the IBC has developed the following policy regarding the use of plant pests in research or teaching.

IBC review and approval is required before initiation of research or teaching projects involving plant pests and non-commercial biological control agents, as follows:

- All work (in a laboratory, growth chamber, greenhouse, or field release) involving experiments to genetically engineer plant pests or biological control organisms by recombinant or synthetic nucleic acid molecule methods and the use of such recombinant or synthetic nucleic acid molecule modified organisms for experimental purposes.
- All work (in a laboratory, growth chamber, greenhouse, or field release) with material which requires federal approval prior to initiation. For example, USDA permits are required for importation of microbial strains, insects, or non-commercial biological control agents from other states or countries (whether or not the organism is indigenous to Iowa).

For clarification purposes, review by the IBC is not required for

- Genetically modified organisms that are commercially available or that have been deregulated by a federal agency. **If such materials are the subject of further recombinant or synthetic nucleic acid molecule work or research, then IBC review is required before the study may be initiated.**
- Diagnostic work at ISU service laboratories receiving diagnostic specimens for identification purposes only (such as the Plant Disease Clinic). If organisms are new to the state of Iowa, they may be subject to IBC review prior to their use for research, teaching, or field release. Please contact the IBC Administrator to see if review is necessary.