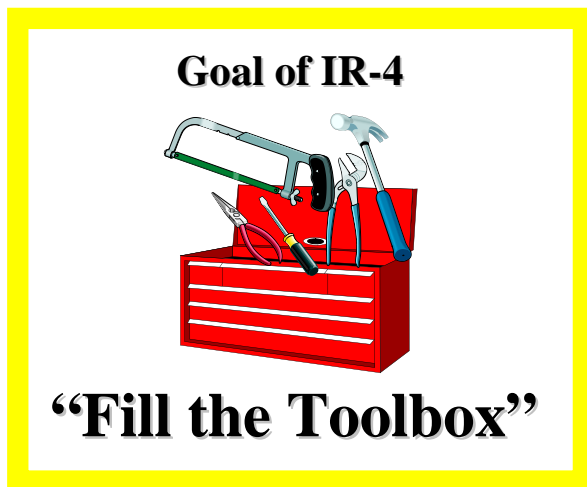


What is the IR-4 Project, how does it work, and how has it helped producers of minor/specialty crops?

Many people who grow specialty crops have heard of the IR-4 project, but are unclear about the purpose, procedure and productivity of the program. This bulletin is designed to give insight into the program and explain how it helps the minor/specialty crop growers, and, ultimately, the public.

What is IR-4?

The Interregional Research Project Number 4 (IR-4) was created in 1963 by USDA to address the need for pest control products in crops with small acreages. The movement toward the establishment of the IR-4 Project was initiated by the heads of several state agricultural experiment stations because they saw that as pest control products were developed, the primary (and sometimes only) registration objectives of the manufacturer were high acreage crops. The cost of conducting trials required for registrations inhibited a manufacturer to pursue labeling a product in small-acreage crops. The economic return from sales of a product in these crops was simply too small, or not present at all. Therefore, the IR-4 program was created to help the growers of these crops by conducting a portion of these trials in order to provide more tools for protecting their crops. The goal of the program is to **“Fill the Toolbox”** for growers of minor/specialty crops.



What are minor crops?

A minor crop is generally defined as any crop grown on 300,000 acres or less. This includes most vegetables, fruit, nuts, herbs, spices, nursery and landscape plants and flowers. Almost all food crops are minor crops except for large acreage crops like corn, soybean, wheat, oats, rice and cotton. Minor crops account for over 43 billion dollars in annual sales, which is about 40 percent of the total agricultural sales for the US.

Minor crops make up >50% of total crop value in 27 states. Nine of these states rely on minor crops for 80% or more of their annual crop value. Minor crops comprise 98% of the total crop value in New Jersey and Rhode Island.¹

How IR-4 works

The IR-4 Project is a cooperative program between the federal government, university researchers, extension personnel and the agrichemical industry. It is funded through the USDA Cooperative State Research, Education and Extension (CSREES), the USDA Agricultural Research Service (ARS), agrichemical companies and grower organizations. The IR-4 program's operational headquarters is housed at Rutgers University. From there

research is coordinated through 4 regional centers. The IR-4 network consists of 25 state-supported and USDA-ARS field research centers and seven major state-supported and USDA-ARS laboratories to conduct the crop research and residue analysis http://www.cals.ncsu.edu/hort_sci/ir4/facilitiesmap.gif. There is one at NC State University. The NC State IR-4 Field Research Center conducts between 25 and 30 residue trials per year to obtain data that will help EPA make decisions on crop protectant registrations. Since its establishment, this Center has conducted over 220 residue trials encompassing over 30 crops and over 75 products in an effort to provide more pest control options for growers of specialty crops.

The process of getting a product registered begins with a request to IR-4 for a specific product in a crop or group of crops. These requests can come from anyone, except a pest control manufacturer. This is very much a “grass-roots” driven program. The process is outlined below:

1. **Requests.** Request is submitted to IR-4, headquartered at Rutgers University. You must make your pest control needs known to IR-4 through a Project Clearance Request (PCR). After a PCR has been submitted, a selection process begins for the projects that will be studied. These forms may be submitted by mail or electronically on the IR-4 website at the following link: <http://ir4.rutgers.edu/FOODRequestForm.htm>
2. **Prioritization.** Each PCR is reviewed at the annual Food Use Workshop sponsored by IR-4. Priority rankings are given to each by the 200 or so participants consisting of state and federal minor crop pest control experts, growers, commodity organizations, and representatives from EPA and industry. Priority is based on the importance of the pest problem, the availability of alternatives, the existence of data gaps, and the value to integrated pest management programs. Only those projects with high priorities and with acceptable environmental and toxicological profiles are put into research trials.
3. **Research is conducted.** If pest control data on the product is lacking, IR-4 may initiate studies to evaluate efficacy of the product. If adequate performance data is available, the product will go into testing for residues on the requested crop(s). The number and location of trials is determined by EPA based on production regions of the crop(s) in question. All residue trials are conducted according to Good Laboratory Practices (GLP) mandated by EPA. These guidelines help to assure consistency of trials across all trial locations.
4. **Data write-up and submission.** IR-4 writes the regulatory submission package for submission to EPA. All of the data generated during the field and laboratory phases of research are sent to IR-4 Headquarters. The data are reviewed by scientists at IR-4 and written into final format for submission to EPA. For food crops, the final format is a petition request for either the establishment of a tolerance or an exemption from the tolerance requirement. A tolerance is the safe, legally allowable maximum amount of pesticide residue on a crop following

treatment. Tolerances are often referred to as M.R.L.s (Maximum Residue Levels). Ornamentals do not require residue tolerance information.

5. **EPA makes a decision.** EPA carefully reviews the IR-4 petitions and data packages. If EPA approves the petition, registration occurs after the registrant requests EPA's approval of the specific directions for use which will appear on the label. The product may be made available for national use, confined to a limited geographical region, or identified for Special Local Need (24c) in a specific state or states.

IR-4 accomplishments

IR-4's success can be measured by the large number of minor crop pest control clearances established or retained as a result of IR-4's efforts. Over 9400 food-use clearances, over 10,600 ornamental clearances and over 300 biopesticide clearances have been established since 1963. Since 2001, over 50% of EPA tolerances are from IR-4 petitions. As the Food Quality Protection Act (FQPA) threatens to restrict or eliminate many long-standing pest control products, IR-4 is focusing on "reduced risk" and safer chemistry to ensure that producers of minor crops have an adequate toolbox of pest control products, both traditional pesticides and biopesticides.

Links

IR-4 Project website

<http://ir4.rutgers.edu>

NC State IR-4 Field Research Center

http://www.cals.ncsu.edu/hort_sci/ir4/ir4main.html

US Environmental Protection Agency

<http://www.epa.gov/>

Maximum Residue Level Database (under USDA Foreign Ag. Service website)

<http://www.mrldatabase.com/>

Special Local Needs (24c) Registrations in North Carolina

<http://www.kellysolutions.com/nc/searchbySLN.asp>



¹Source: 2002 Census of Agriculture, United States Summary Table 56.