

The Economic Impact of the IR-4 Project and Programs: Summary



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Summary

This report details the approach and estimated economic contributions of the IR-4 Project through its three program areas and through support for Section 18 Emergency Exemption filings. The Food Crop program is the original impetus of the IR-4 Project, though the Environmental Horticulture Program and Biopesticide Regulatory Support are essential to industry stakeholders. This report explains in economic terms why the IR-4 Project's role in developing data to support the registration of safe and effective pest management technology for small market uses is so important. Because of market considerations and regulations, there would be few if any technology approved in these small minor markets. We are careful to note that the EPA function of regulating and restricting the use of pesticides has clear and measurable benefits, but from an economic perspective, pesticide regulations introduce market failures that result in suboptimal economic outcomes. Such shortcomings can be exemplified by cases where specialty crop growers or minor use needs are without viable pest control options, despite the presence of effective pesticides products. The IR-4 Project aims to correct these market-based deficiencies.

While this report describes and measures the economic contribution of salient services of the IR-4 Project, not all relevant sources of impacts were measured in this assessment. Pesticides are an integral part of the modern food supply and contribute to the general decrease in household expenditure's share on food since the 1960s [66], as well as consumer access to a diverse and healthy diet. Though reducing the cost of consumer access to food frees earnings for other expenditures is sufficient to merit economic value, the resulting food sufficiency and varied diet also improves health and associated economic gains from reduced health-related costs and through a more productive workforce. More directly, the IR-4 Project works in global markets to harmonize data, pesticide registration, MRLs and testing methods to regulate pesticide use, thereby reducing barriers to trade [67]. As the U.S. is a net exporter of agricultural goods, trade liberalization has an asymmetric benefit to U.S. agricultural producers and on the national economy. Other relevant channels to economic impact are explored in the report.

We apply well-established approaches to measuring economic contributions and estimate that the IR-4 Project supports over 111 thousand domestic jobs with a total annual payroll of \$5.34 billion in 2021 dollars. When accounting for all sources of national income, the IR-4 Project is estimated to contribute \$8.97 billion to annual gross domestic product, including direct and secondary effects, which measures how dollars are re-spent throughout the economy. Several channels of economic contribution go into these measures, including direct expenditures of the IR-4 Project, anticipated crop losses mitigated under each of the two IR-4 Programs, through Biopesticide Regulatory Support and through gaining EPA exemptions for pesticide use when few or no other options for pest management exists. Recognizing that benefits realized today come from over 50 years of IR-4 Project efforts, we show that we can attribute about seven jobs today for every \$1,000 in annual public investment in the IR-4 Project.