General Pesticide FAQs

Q. Are there ways to avoid using pesticides?

A. In order to feed a growing population, farmers must protect their crops from weeds, disease, and insects. Experts such as the Arizona Farm Bureau agree that even with pesticides, up to 40% of global crops are lost to pests and disease each year.[1] Without pesticides, losses could be as high as 85%.[2] Today's pesticides are the best available solution to the challenges farmers face.

Q. Do farmers/pesticide manufacturer executives eat foods grown with pesticides?

A. Yes. Whether you are buying organic, non-organic, local, or imported, your food has almost certainly been grown with the help of pesticides. The food you buy from the grocery store is no different from the food that farmers and those who manufacture pesticides eat and feed their families.

Q. How do farmers determine when and where to apply pesticides?

A. Today's farmers take an integrated approach to pest management, focusing on prevention, and using pesticides only as a last resort.[3] They carefully track which pests and diseases are affecting their crops and which parts of their fields are affected. If they must use pesticides, they carefully select the right pesticide for each pest and crop at issue. They employ technology that allows them to target only those areas that need treatment, avoid spraying crops that don't, and avoid surrounding neighborhoods.[4] Ultimately, the technologies at farmers' disposal allow them to apply fewer pesticides, less frequently, and in smaller amounts than in the past. For example, in 2018, about a quarter of snap bean crops in the U.S. were treated with a product to prevent aphids at a rate of less than one ounce per acre.[5]

Q. What measures are taken to help ensure that pesticides are applied accurately?

A. When a pesticide is approved for use, regulators protect consumers, farm workers, those living near farms, and the environment by establishing restrictions on how

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[1] Arizona Farm Bureau, How we Use Pesticides in Agriculture, 2017, available at https://www.azfb.org/Article/How-We-Use-Pesticides-in-Agriculture

[2] European Crop Protection Association, With or Without, available at https://www.ecpa.eu/node/338

[3] EPA, Introduction to Integrated Pest Management, available at https://www.epa.gov/managing-pests-schools/introduction-integrated-pest-management

[4] Arizona Farm Bureau, How we Use Pesticides in Agriculture, 2017, available at https://www.azfb.org/Article/How-We-Use-Pesticides-in-Agriculture

[5] USDA National Agricultural Statistics Service, Factsheet: 2018 Agricultural Chemical Use, Vegetable Crops, 2019, available at https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Chemical_Use/2018_Vegetables/ChemUseHighlights_Vegetables_2018.pdf

pesticides can be used.[6] Certified pesticide applicators must be trained, apply for, and receive a government license before they can use pesticides on agricultural crops.[7] Government agencies inspect whether and how farmers are using pesticides, including when and where they use them and in what quantities, to help ensure compliance with use restrictions. Use restrictions can cover the quantities used, the frequency of application, the time of day a pesticide can be used, and where it can be used relative to wells and property lines to prevent run-off.[8]

Q. What would happen if farmers were not allowed to use pesticides?

A. In short, farmers would not be able to grow enough food to feed a growing population. Population estimates suggest that farmers will have to grow twice as much food by 2050 to feed everyone on Earth.[9] At the same time, without pesticides, food prices would increase – between 35% to 45% for fruits and vegetables[10], – and all food prices would increase as costs for plant-based products such as animal feed and ingredients in processed food would be passed on to end consumers.

Many farmers would be out of business. According to the USDA, nearly three-quarters of farms make less than ten cents on every dollar they spend – and this is before paying taxes.[11] Without pesticides, decreased crop yields would put many farmers out of business.

Without pesticides, farmers would need twice as much land to grow the same amount of food due to reduced yields.[12] Today, about 400 million acres in the U.S. are used to raise crops.[13] Without pesticides, farmers would need about 800 million acres, or 42% of the total land area of the lower 48 states in the U.S. In addition to clearing forests and wetlands, this would require huge amounts of water to irrigate desert land and twice as much fuel.

Q. Are companies developing alternatives to today's pesticides?

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[6] The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended in 1996, 7 USC 136, 136a, Registration of Pesticides, available at 7 U.S.C. 136 - Definitions - Content Details - USCODE-2017-title7-chap6-subchapII-sec136 (govinfo.gov)

[7] EPA, How to Get Certified as a Pesticide Applicator, available at https://www.epa.gov/pesticide-worker-safety/how-get-certified-pesticide-applicator

[8] Wayland, S., and Fenner-Crisp, P., Reducing Pesticide Risks: A Half Century of Progress, EPA Alumni Association, 2016, available at https://www.epaalumni.org/hcp/pesticides.pdf

[9] Foley, J., A Five Step Plan to Feed the World, available at https://www.nationalgeographic.com/foodfeatures/feeding-9-billion/

[10] CropLife America, available at https://static1.squarespace.com/static/59b55b2b37c581fbf88309c2/t/5a2f44f408522933899cde80/1513047289169/%20Global-Market-to-the-Grocery-Store.jpg

[11] USDA, America's Diverse Family Farms: 2018 Edition, available at https://www.ers.usda.gov/webdocs/publications/90985/eib-203.pdf?v=6080

[12] CropLife America, The Contribution of Crop Protection Products to the United States Economy, 2011, available at https://static1.squarespace.com/static/59b55b2b37c581fbf88309c2/t/5a2a8074f9619a97da953a70/1512734840313/The+Contribution+of+Crop+Protection+Products+to+the+US+Economy.pdf

[13] USDA, Census of Agriculture – 2017, Factsheet: Farms and Farmland, 2019, available at https://www.nass.usda.gov/Publications/Highlights/2019/2017Census_Farms_Farmland.pdf

A Yes. In addition to developing new and safer pesticides, manufacturers invest heavily in solutions that reduce the need for pesticides, such as pest-resistant plants, as well as mechanical and biological solutions (e.g., predatory insects). Pesticide manufacturers invest billions of dollars to develop and test the effectiveness and safety of innovative pest control solutions.[14] They employ cutting-edge scientific techniques to assess the short and long-term health and environmental impacts of new discoveries. If new pesticide discoveries pose unreasonable health or environmental risks, manufacturers stop developing them long before submitting them for EPA approval. Only one in 10,000 discoveries will make it from the research lab through the EPA approval process to farmers' fields, a process which typically takes about 11 years.[15]

Q. Do pesticide manufacturers require farmers to use certain pesticides?

A. No. In fact, farmers' needs drive pesticide research and development. Pesticide manufacturers rely on input from farmers to understand which pests are hurting their crops and how. Manufacturers then develop products to address these specific issues.[16] As farmers move to regenerative agriculture practices and use fewer, more targeted pesticides, manufacturers are meeting their needs. Today's pesticides are designed to be used only when and where they are needed and in the smallest amounts possible – often on the order of ounces per acre or less.[17]

[14] Philips McDougal, The Cost of New Agrochemical Product Discovery, Development and Registration in 1995, 2000, 2005-8 and 2010 to 2014. R&D expenditure in 2014 and expectations for 2019, March 2016, available at https://static1.squarespace.com/static/59b55b2b37c581fbf88309c2/t/5a2a7ff40d9297afb587e877/1512734710274/Cost+of+New+Agrochemical+Product+Discovery%2C+Development+and+Registration_March+2016.pdf

[15] Philips McDougal, The Cost of New Agrochemical Product Discovery, Development and Registration in 1995, 2000, 2005-8 and 2010 to 2014. R&D expenditure in 2014 and expectations for 2019, March 2016, available at https://static1.squarespace.com/static/59b55b2b37c581fbf88309c2/t/5a2a7ff40d9297afb587e877/1512734710274/Cost+of+New+Agrochemical+Product+Discovery%2C+Development+and+Registration_March+2016.pdf

[16] Whitford, F., et al., The Pesticide Marketplace: Discovering and Developing New Products, Purdue University, available at https://www.extension.purdue.edu/extmedia/PPP/PPP-71.pdf

[17] USDA National Agricultural Statistics Service, Factsheet: 2018 Agricultural Chemical Use, Vegetable Crops, 2019, available at https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Chemical_Use/2018_Vegetables/ChemUseHighlights_Vegetables_2018.pdf