



Sustainability FAQs

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.¹ 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.² 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.³

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 pesticides can be used.⁴ Certified pesticide applicators must be trained, apply for, and receive a government license before they can use pesticides on agricultural crops.⁵ 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.⁶

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.⁷ At the same time, without pesticides, food

¹ EPA, Introduction to Integrated Pest Management, available at <https://www.epa.gov/managing-pests-schools/introduction-integrated-pest-management>

² Arizona Farm Bureau, How we Use Pesticides in Agriculture, 2017, available at [How We Use Pesticides in Agriculture \(azfb.org\)](http://www.azfb.org/How-We-Use-Pesticides-in-Agriculture)

³ 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

⁴ 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 \(govinfo.gov\)](https://www.ecfr.gov/current/title-7--agriculture/subtitle-b--regulatory-information/chapter-i--pesticides/section-7-136--definitions)

⁵ EPA, How to Get Certified as a Pesticide Applicator, available at <https://www.epa.gov/pesticide-worker-safety/how-get-certified-pesticide-applicator>

⁶ 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>

⁷ Foley, J., A Five Step Plan to Feed the World, available at <https://www.nationalgeographic.com/foodfeatures/feeding-9-billion/>

prices would increase – between 35% to 45% for fruits and vegetables⁸ – 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.⁹ 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.¹⁰ Today, about 400 million acres in the U.S. are used to raise crops.¹¹ 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. What impact do pesticides have on the environment?

A. Contrary to what some may think, today's pesticides actually help farmers protect the environment – allowing farmers to produce more food using fewer resources. With pesticides, farmers need about half as much land as they would need to grow the same amount of food if they did not have access to pesticides. Without pesticides, farmers would need about 800 million acres of land – about 42% of the total land area of the lower 48 states in the U.S. – to grow the same amount of food they do today with half as much land.¹²

Pesticides enable regenerative farming practices that protect the environment, such as no-till farming in which fields are not plowed, and residue from the previous seasons' crops, such as wheat stalks, are left in the field as mulch for the next season.¹³ The benefits of no-till farming include reduced soil erosion (by about 90%), water conservation, improved soil health, and reduced fuel use because farmers don't plow

⁸ CropLife America, available at <https://static1.squarespace.com/static/59b55b2b37c581fbf88309c2/t/5a2f44f408522933899cde80/1513047289169/%20Global-Market-to-the-Grocery-Store.jpg>

⁹ USDA, America's Diverse Family Farms: 2018 Edition, available at <https://www.ers.usda.gov/webdocs/publications/90985/eib-203.pdf?v=6080>

¹⁰ 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>

¹¹ USDA, Census of Agriculture – 2017, Factsheet: Farms and Farmland, 2019, available at https://www.nass.usda.gov/Publications/Highlights/2019/2017Census_Farms_Farmland.pdf

¹² USDA, Census of Agriculture – 2017, Factsheet: Farms and Farmland, 2019, available at https://www.nass.usda.gov/Publications/Highlights/2019/2017Census_Farms_Farmland.pdf; 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 No-Till Farming Facts, available at <http://notillagriculture.com/no-till-farming/what-is-no-till-farming-definition/no-till-farming-facts/>

their fields between crops.¹⁴ According to the USDA, no-till farming saves a combined 812.4 million gallons of fuel each year – roughly the annual amount of energy required by 3.2 million homes – and reduces CO2 emissions by 9.1 million tons – the equivalent annual emissions of 1.9 million passenger cars.¹⁵

¹⁴ USDA, Seeing is Believing: Soil Health Practices and No-Till Farming Transform Landscapes and Produce Nutritious Food, 2016, available at <https://www.usda.gov/media/blog/2016/12/19/seeing-believing-soil-health-practices-and-no-till-farming-transform>

¹⁵ USDA Natural Resources Conservation Service, Reduction in Annual Fuel Use from Conservation Tillage, 2016, available at https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1258255.pdf