## UNDERSTANDING FARM CHEMICAL USE

# Pesticides allow farmers to grow safe and affordable food

**In a perfect world, farmers wouldn't need pesticides.** Unfortunately, bugs and disease exist that make growing food challenging. A pesticide is a chemical used to protect food against insects, weeds and diseases.<sup>1</sup> Farmers use pesticides to help grow safe and affordable food.<sup>2</sup>

### What pesticides mean for you<sup>3</sup>



Available produce December or June, we can always find our favorite foods.

NOIS

watchusgrow.org



Affordable produce Tools to protect our food keep prices down.



**Bug-free** The vast majority of the food you buy is free of insects.



More variety When farmers can protect their food they can grow more types of food.

### Limiting the residue on your food<sup>4</sup>

Farmers and researchers have determined the smallest amount of pesticide possible that can still protect your food. The EPA, FDA and USDA set important residue limits well below hazardous amounts, keeping us safe from cancer or other side effects. The average person could eat 850 apples every day without any negative effects from pesticide residue.

### COMING TOGETHER TO CREATE A PLAN<sup>5</sup>

Scientists, farmers and other experts care about the safety of your food and work to protect it. Farmers, agronomists, scientists and other experts work together to develop an insect and disease control plan, called integrated pest management. Government agencies, like the Environmental Protection Agency (EPA), Food and Drug Administration (FDA) and the United States Department of Agriculture (USDA), regulate pesticide use with your safety in mind.

## Decisions, decisions, decisions

An effective integrated pest management plan minimizes environmental impact and gives farmers options for keeping your food safe while protecting it.

- What kind should I use? Certain pesticides target specific pathways that only exist in insects or diseases, not humans.<sup>6</sup>
- Where should I use it? Not all pesticides stick around. Some pesticides disappear completely into the plant or insect, making them safer to use near water sources, while others are better suited for flat fields where pesticides have a lower risk of ending up in waterways.
- **How much should I use?** With pesticides, more isn't always better. The most effective amount often means using less. The goal is to control insects, not eliminate them.<sup>7</sup>
- What else should I do? Managing insects and disease may require additional measures beyond pesticides, such as planting at specific times during the year and utilizing tillage methods to disrupt insect populations.<sup>8</sup>

### The difference between organic and conventional farming<sup>9</sup>

Organic farmers need to protect their food, too. The list of approved organic pesticides varies from conventional farming, but pesticides are still an important tool that both kinds of farmers value. The types of chemicals used are one of the only ways organic and conventional farmers differ in pest control.

### Taking an extra step<sup>10</sup>

Our food safety inspection processes ensure the produce you buy at the grocery store is safe. Additionally, the FDA recommends the following best practices when eating fresh fruits and vegetables:<sup>11</sup>

- 1. Wash your hands with warm water and soap.
- 2. Cut away damaged or bruised areas on produce before preparing or eating it.
- 3. Rinse produce before you peel it to avoid getting any dirt on the knife.
- 4. Gently rub produce while holding it under water.
- 5. Use a clean brush to scrub firm produce.
- 6. Dry produce with a clean cloth.

The average person could eat 850 apples a day without any negative effects from pesticide residue.<sup>9</sup>

### Know your pesticides<sup>12</sup>

"Pesticide" is a broad term that includes several tools used to protect our food.



Protects against fungi diseases



Protects against weeds INSECTICIDE

Protects against insects

### References

1. National Pesticide Information Center: <a href="http://joic.orst.edu/">http://www.epa.gov/safepstcontrol/food-andpesticides | 4. Safe Fruits and Veggies Pesticide Calculator: <a href="http://www.saferutaandveggies.com/pesticide-calculator">http://www.epa.gov/safepstcontrol/food-andpesticides | 4. Safe Fruits and Veggies Pesticide Calculator: <a href="http://www.saferutaandveggies.com/pesticide-calculator">http://www.saferutaandveggies.com/pesticide-calculator</a> (> 4. Safe Fruits and Veggies Pesticide Calculator: <a href="http://www.saferutaandveggies.com/pesticide-calculator">http://www.saferutaandveggies.com/pesticide-calculator</a> (> 6. Pest toxicology: the primary mechanisms of pesticide action: <a href="http://www.saferutaandveggies.com/pesticide/calculator">http://www.saferutaandveggies.com/pesticide/calculator</a> (> 6. Pest toxicology: the primary mechanisms of pesticide action: <a href="http://mww.ncbi.nlm.nih.gov/pubmed/19284791">http://www.saferutaandveggies.com/pesticide/calculator</a> (> 16. Pest toxicology: the primary mechanisms of pesticide action: <a href="http://mww.ncbi.nlm.nih.gov/pubmed/19284791">http://www.ncbi.nlm.nih.gov/pubmed/19284791</a> (> Pesticide interaction: <a href="http://mic.orst.edu/health/ovc.html">http://www.ncbi.nlm.nih.gov/pubmed/19284791</a> (> 17. Plant-pesticide interaction: <a href="http://mic.orst.edu/health/ovc.html">http://www.ncbi.nlm.nih.gov/pubmed/19284791</a> (> 18. Plant-pesticide interaction: <a href="http://mic.orst.edu/health/ovc.html">http://www.ncbi.nlm.nih.gov/pubmed/19284791</a> (> 19. Plant-pesticide interaction: <a href="http://mic.orst.edu/health/ovc.html">http://www.ncbi.nlm.nih.gov/pubmed/19284791</a> (> 10. Plant-pesticide interaction: <a href="http://mic.orst.edu/health/ovc.html">http://www.ncbi.nlm.nih.gov/pubmed/19284791</a> (> 10. Plant-pesticide interaction: <a href="http://mic.orst.edu/health/ovc.html">http://www.ncbi.nlm.nih.gov/pubmed/19284791</a> (> 10. Plant-pesticide interaction: <a href="http://mic.orst.edu/health/ovc.html">ht