

Environmental Protection Agency (EPA)

The US EPA is the Federal regulatory agency responsible for protecting the environment. The EPA addresses general concerns of environmental pollution and reviews and registers toxic materials both at the level of use and as residues in food, air and water. Agriculture is impacted in many ways by EPA regulations.

EPA Legislation Related to Agriculture

Specific EPA regulations impacting agriculture are found in 12 major existing EPA Laws and Regulations that are well summarized in *Major Existing EPA laws and Programs that Could Affect Agricultural Producers*, produced in June 2007, by the Environmental Protection Agency and available online.¹ A series of simple charts is provided breaking down the impacts of the regulations on agriculture. Since publication of this document, the EPA has expanded and updated regulatory requirements for Concentrated Animal Feeding Operations (CAFOs) under the Clean Water Act (CWA), National Pollution Discharge Elimination System Permits (NPDES) program.² Recently updated Clean Air Act regulations will impact the management of manure, diesel equipment and other activities with air emissions.³

Management of water runoff issues is addressed through the CWA. States are required to identify impaired waters and then establish a Total Maximum Daily Load (TMDL) for each, which is the maximum level of pollution that would not impede the waters' beneficial functions. Once a TMDL is accepted, the state must develop a plan to achieve the TMDL level. In general, the CWA delegates water pollution cleanup management to the states and regions as part of their TMDL plans. To date, most states have adopted an agriculture runoff policy that centers on voluntary implementation of best management practices (BMPs). The BMPs are developed by the states, often in consultation with farmers. Some sensitive habitats such as the Chesapeake Bay region have more stringent requirements for developing and implementing management plans for nutrients and pesticides that include fines for failure to comply.⁴ As part of the CWA, cities and industries are required to have NPDES Permits for storm water systems, but with the exception of some CAFOs, the current approach does not require farmers to have permits for their runoff.

Under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) the EPA and the states register and license pesticides for use and establish certification and licensing programs that are managed by individual states.^{5,6} Before registering a new pesticide the EPA requires the applicant to provide scientific studies and test data. For pesticides used in food production, the EPA sets tolerance limits for residuals in or on food. As part of the pesticide process, the EPA registers the pesticides that are genetically added to plants – Plant Incorporated Protectants (PIP). The EPA does not register the plant. The developer of the PIP must submit the same scientific research and data for the PIP as for other pesticides. A review takes place that includes evaluation of risks to humans from exposure.⁷ The EPA requires registered users to incorporate

Insect Resistant Management (IRM) in their planting program. This includes the planting of refuge crops to reduce the risk of insects developing resistance.⁸

Current Issues

- Increased regulation is challenging for farmers, many of whom are already working on a thin line of profitability. Examples of regulations include upgrading expensive equipment to meet fuel and air emissions, reducing field size to provide for riparian zones, limited use of pesticides and feedlot regulations.^{9,10,11}
- Agriculture remains one of the major sources of runoff pollution and contributes to air pollution. Many problems created by agriculture continue and more regulation or changes in enforcement may be needed to protect the air and reduce pollution to surface water, aquifers and other habitats.^{12,13}
- As new technologies, such as nanotechnology, are introduced, the EPA¹⁴ will need to make determinations as to whether additional regulation is required.

Recommended Readings

EPA laws and regulations

Stubs, Megan, coordinator, *Environmental Regulations and Agriculture*, Congressional Research Service, 1/22/13, <http://www.fas.org/sgp/crs/misc/R41622.pdf>, accessed 10/26/13.

Environmental Protection Agency, Agricultural Counselor, Office of the Administrator, *Major Existing EPA Laws and Programs That Could Affect Agricultural Producers*, June, 2007, <http://www.epa.gov/agriculture/agmatrix.pdf>, accessed 10/26/13.

CAFO regulations

MacCurdy, Melinda, "EPA to require CAFOs to Report Under New Clean Water Act Rules," 12/6/11 *Marten Law*, accessed at <http://www.martenlaw.com/newsletter/20111206-cafos-new-clean-water-act-rules>, accessed 10/26/13.

EPA, Compiled CAFO Final Rule, Part 122, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, July 30, 2012, http://www.epa.gov/npdes/regulations/cafo_final_rule2008_comp.pdf, accessed 10/26/13.

Agriculture concerns

Lieberman, Ben, "EPA's Global Warming Regulations: A threat to American Agriculture," Web Memo, No. 2851, Heritage Foundation, 4/1/10, http://thf_media.s3.amazonaws.com/2010/pdf/wm_2851.pdf, accessed 10/26/13.

Helmholtz Centre for Environmental Research (UFZ), "Pesticides Significantly Reduce Diversity in Aquatic Environments," Press release, June 17, 2013, <https://www.ufz.de/index.php?en=31771>, accessed 10/26/13.

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- ¹ Environmental Protection Agency, Agricultural Counselor, Office of the Administrator, Major Existing EPA Laws and Programs that Could Affect Agricultural Producers, June, 2007, <http://www.epa.gov/agriculture/agmatrix.pdf>, accessed 10/26/13.
- ² EPA, Compiled CAFO Final Rule, Part 122, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, July 30, 2012, http://www.epa.gov/npdes/regulations/cafo_final_rule2008_comp.pdf, accessed 10/26/13.
- ³ EPA, Non-Road Diesel Engines, <http://www.epa.gov/otaq/nonroad-diesel.htm>, accessed 10/26/13.
- ⁴ Maryland Department of Agriculture, "About Maryland's Nutrient Management Program," http://mda.maryland.gov/resource_conservation/Pages/nutrient_management.aspx, accessed 10/26/13.
- ⁵ EPA, "Regulating Pesticides," <http://www.epa.gov/opp00001/regulating/>, accessed 8/7/13.
- ⁶ Fishel, Frederick M., "Federal Regulations Affecting the Use of Pesticides," University of Florida, IFSA Extension, EDIS, <http://edis.ifas.ufl.edu/pi168>, accessed 10/26/13.
- ⁷ EPA, "Plant Incorporated Protectants," <http://www.epa.gov/pesticides/biopesticides/pips/index.htm>, accessed 10/26/13.
- ⁸ EPA, "EPA's Regulation of Bacillus thuringiensis (BT) Crops," 735-F-013, May, 2002. <http://www.epa.gov/oppbppd1/biopesticides/pips/regofbtcrops.htm>, accessed 10/26/13.
- ⁹ Lieberman, Ben, "EPA's Global Warming Regulations: A threat to American Agriculture," Web Memo, No. 2851, Heritage Foundation, 4/1/10, http://thf_media.s3.amazonaws.com/2010/pdf/wm_2851.pdf, accessed 10/26/13.
- ¹⁰ Caldwell, Jeff, "A Trio of Farm Concerns for the next 12 Months," Agriculture.com, 2/1/13. http://www.agriculture.com/news/business/a-trio-of-farm-concerns-f-next-12_5-ar29380, accessed 10/26/13.
- ¹¹ Fitzgerald, Eddie, "Hagan co-sponsors bill to reduce Regulation on Pesticides," *Sun Journal*, 4/25/13. <http://www.newbernsj.com/news/business/hagan-co-sponsors-bill-to-reduce-regulations-on-pesticides-1.132767>, accessed 10/26/13.
- ¹² Equal Earth, "Agriculture and Pollution," <http://www.equalearth.org/agriculturepollution.htm>, accessed 10/26/13.
- ¹³ EPA, "Managing nonpoint Source Pollution from Agriculture," <http://water.epa.gov/polwaste/nps/outreach/point6.cfm>, accessed 10/26/13.
- ¹⁴ Nanotech Work Group, EPA's Science Policy Council, *U.S. Environmental Agency Nanotechnology White Paper*, 2007. <http://www.epa.gov/osa/pdfs/nanotech/epa-nanotechnology-whitepaper-0207.pdf>, accessed 10/26/13.