PennState Dickinson Law | Center for Agricultural and Shale Law

PENNSYLVANIA DEPARTMENT OF AGRICULTURE | AGRICULTURAL BUSINESS DEVELOPMENT CENTER

Understanding Agricultural Law Webinar Series

Understanding Agricultural Law

Webinar Series

Understanding the Basics of

Pesticide Drift

February 28, 2025

Understanding Agricultural Law

A Legal Educational Series for General Practice Attorneys and Business Advisors Representing Agricultural and Rural Clients

This webinar series is specifically tailored to create subject matter literacy and competence on fundamental issues of agricultural law for attorneys, advisors, and service providers to agricultural producers and agri-businesses.

Understanding Agricultural Law Series:

Past Topics:

- Agricultural Labor Laws
- Leasing Farmland for Energy Development
- Local Land Use Regulation of Agriculture
- Statutory Protections for Ag Operations
- Agricultural Cooperatives
- Livestock Market Regulation
- Crop Insurance
- Federal & State Conservation Programs
- Licensing & Regulation of Direct Agricultural Product Sales
- Agricultural Finance
- PA's "Clean & Green" Tax Assessment Program
- Animal Confinement Laws
- Conservation Easements
- Landowner Immunity Statutes
- The Farm Credit System
- Milk Pricing
- Pesticides
- Seed Laws
- Fair Labor Standards Act (FLSA)
- Perishable Agricultural Commodities Act (PACA)
- Food Labeling

aglaw.psu.edu/understanding-agricultural-law/

More upcoming programs from the Ag Law Center:

Understanding Agricultural Law Series

Understanding the Basics of--

Mar. 28, 2025—**Clean Water Act & Ag: Impaired Waters & TMDL Process**

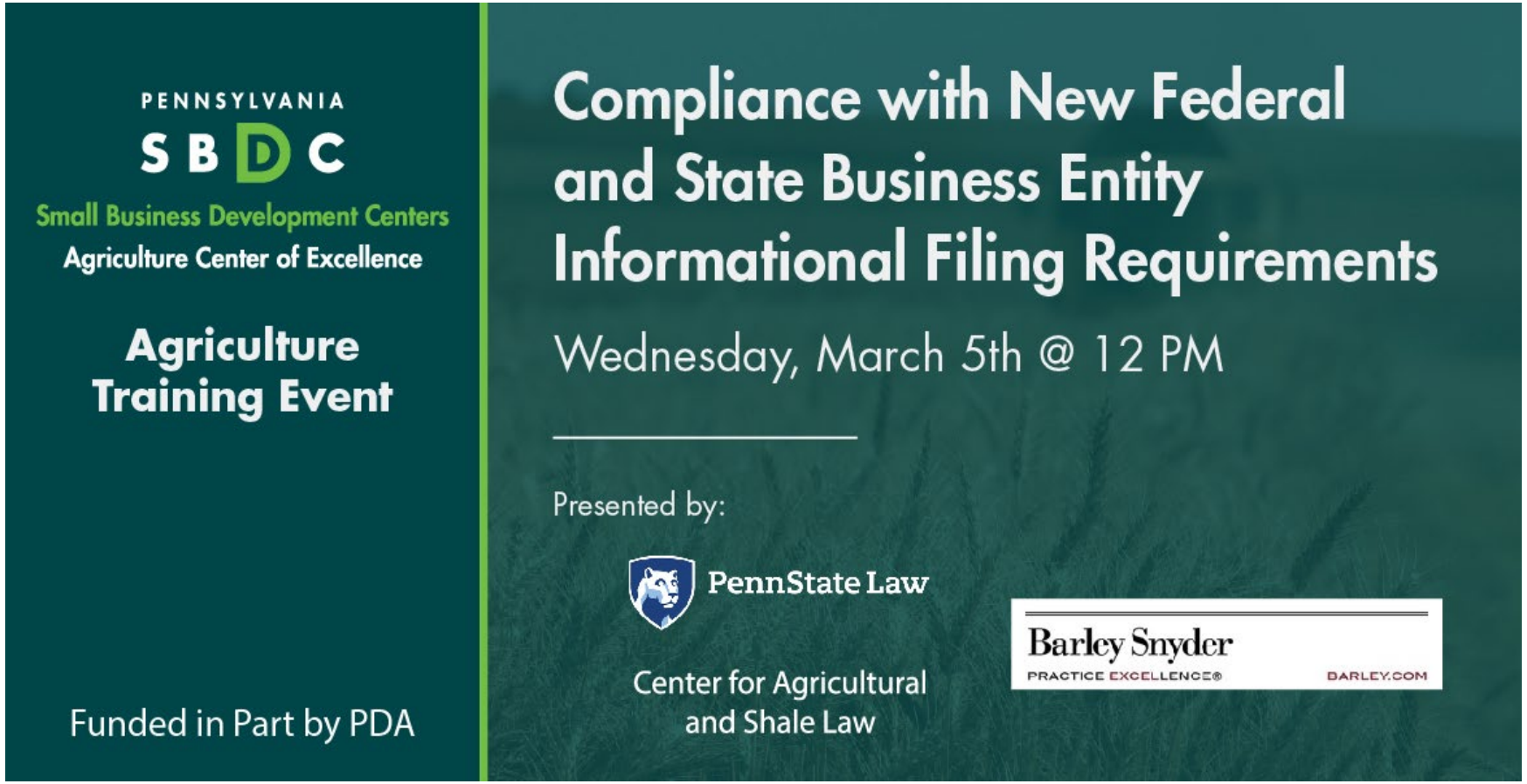
Apr. 25, 2025—**PA Ag Exemptions for Inheritance Tax and Real Estate Transfers**

Quarterly Dairy Legal Webinar Series:

April 15, 2025—**1st Quarter of 2025: Bovine Disease Controls: Federal and PA Laws & Regulations**

Register at https://aglaw.psu.edu/events/

More upcoming programs with the Ag Law Center:



Register at https://aglaw.psu.edu/events/

Housekeeping

- This webinar is being recorded.
- Please use the **Q&A feature** for questions.
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- **CLE credits:**
  - Link to **CLE form** will be posted in the **chat**
  - Please fill out form ASAP
  - Listen for **code word**, enter code word in the form

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PENNSYLVANIA DEPARTMENT OF AGRICULTURE | AGRICULTURAL BUSINESS DEVELOPMENT CENTER

Understanding Agricultural Law Webinar Series

Understanding Agricultural Law

Webinar Series

Understanding the Basics of

Pesticide Drift

with a focus on organic agriculture

February 28, 2025

Pesticides

What is a pesticide?

- Pesticide is a generic term that includes both compounds and mixtures
- The term pesticide encompasses more than those substances whose value is in toxicity to kill pests
  - What is a pest?
    - Pests include insects, rodents, nematodes, fungus, and weeds
    - It can also include animals, plants, viruses, bacteria and other microorganisms
    - Pests do **NOT** include viruses, bacteria or microorganisms *that are on or inside of a human or other animal*
    - Pests ≠ Human/Animal Diseases
      - Pharmaceuticals are regulated under the FDCA, rather than the FIFRA

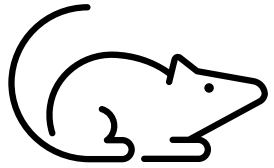
Pesticide Categories

- **Algicides** kill algae in lakes, canals, swimming pools, water tanks and other sites.
- **Antifoulants** kill or repel organisms that attach to underwater surfaces, such as barnacles that cling to boat bottoms.
- **Antimicrobials** kill microorganisms such as bacteria and viruses.
- **Attractants** lure pests to a trap or bait, for example, attract an insect or rodent into a trap.
- **Biopesticides** are derived from natural materials such as animals, plants, bacteria and certain minerals.
- **Biocides** kill microorganisms.
- **Defoliants** cause leaves or foliage to drop from a plant, usually to facilitate harvest.
- **Desiccants** promote drying of living tissues, such as unwanted plant tops.
- **Disinfectants and sanitizers** kill or inactivate disease-producing microorganisms on inanimate objects.
- **Fungicides** kill fungi (including blights, mildews, molds and rusts).
- **Fumigants** produce gas or vapor intended to destroy pests, for example in buildings or soil.
- **Herbicides** kill weeds and other plants that grow where they are not wanted.
- **Insect growth regulators** disrupt the molting, maturing from pupal stage to adult, or other life processes of insects.
- **Insecticides** kill insects and other arthropods.
- **Miticides** (also called acaricides) kill mites that feed on plants and animals.
- **Microbial pesticides** are microorganisms that kill, inhibit, or out-compete pests, including insects or other microorganism pests.
- **Molluscicides** kill snails and slugs.
- **Nematicides** kill nematodes (microscopic, worm-like organisms that feed on plant roots).
- **Ovicides** kill eggs of insects and mites.
- **Pheromones** disrupt the mating behavior of insects.
- **Plant growth regulators** alter the expected growth, flowering or reproduction rate of plants (does not include fertilizers).
- **Plant Incorporated Protectants** are substances that plants produce from genetic material that has been added to the plant.
- **Repellents** repel pests, including insects (such as mosquitoes) and birds.
- **Rodenticides** control mice and other rodents.

https://www.epa.gov/ingredients-used-pesticide-products/types-pesticide-ingredients

Pesticide Categories

- **Insecticides:** kill insects and other arthropods.
- **Herbicides:** kill weeds and other plants that grow where they are not wanted.
- **Fungicides:** kill fungi (including blights, mildews, molds and rusts
- **Rodenticides:** kill mice & other rodents



Pesticide Categories

- **Defoliants:** cause plants to lose their leaves
  - Important for the mechanical harvesting of certain plants to prevent leaves from getting in the way of the harvesting process
- **Desiccants:** cause plant material to die and dry faster than normal
- **Plant Growth Regulators:** alters the growth rate or reproduction rate of plants
- **Fumigants:** produce gas or vapor intended to destroy pests, for example in buildings or soil.

Pesticides - Governing Law

- **The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)**
- **Federal Food Drug and Cosmetic Act (FFDCA)**
  - "a reasonable certainty of no harm" – general safety standard
- **Food Quality Protection Act (FQPA)**
  - "Imposed stricter standards for tolerance setting including enhanced children's protection, aggregation of exposures when looking at human health risk, cumulative assessments
  - Required periodic review of pesticides "

Pesticides - FIFRA

- **The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)**
  - federal law under which pesticides are regulated
- FIFRA was originally written to protect consumers from fraudulent or misleading claims
- Requires all pesticides sold, distributed, or used in the United States *must* be registered with the EPA

Pesticides - FIFRA

- The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
- 1972 amendments:
  - Protection of the environment
  - FIFRA was transferred to EPA from USDA
  - Anyone registering a pesticide "must prove to the EPA that the pesticide will perform it's intended function ***without unreasonable risks to people and the environment***"

Pesticides – Registration

- https://www.epa.gov/pria-fees/about-pesticide-registration-fees-under-pria
- https://www.epa.gov/sites/production/files/2014-03/documents/pria_annual_report_2010.pdf

Registration of Pesticides

- Every pesticide must be registered with the EPA before it can be transferred or sold
- The registration of new pesticides is an expensive, multi-year project
- Application must include:
  - How the pesticide is classified
  - Proposed labeling
    - All claims
    - Directions for use

Regulation & Enforcement

- States have the primary authority to regulate the use of pesticides within their borders
- EPA requires certain minimum elements in every state pesticide program
- A basic pesticide program includes **regulations** and **enforcement** to ensure that applicators act in a manner consistent with protection of human health and the environment
- States are responsible for compliance

Regulation & Enforcement

- Any deviation from the label requirements is a violation of FIFRA and state law
- Label requirements are often very detailed and dictate the conditions under which the pesticide may be applied
- Most labels address application techniques for drift avoidance

Applicator Certification

- State programs also include:
  - Pesticide applicator certification
    - State have few restrictions in how they set up their applicator certification programs
- States distinguish between:
  - Pesticide applications in agricultural and forestry uses, and
  - Pesticides in buildings

Record Keeping

- All pesticide users:
  - Must keep & retain records
- For the applicator:
  - records must include:
    - Time and place of application
    - weather conditions


Texas Cooperative EXTENSION

Agricultural Pesticide Use Record-Keeping Form for Texas Private Applicators

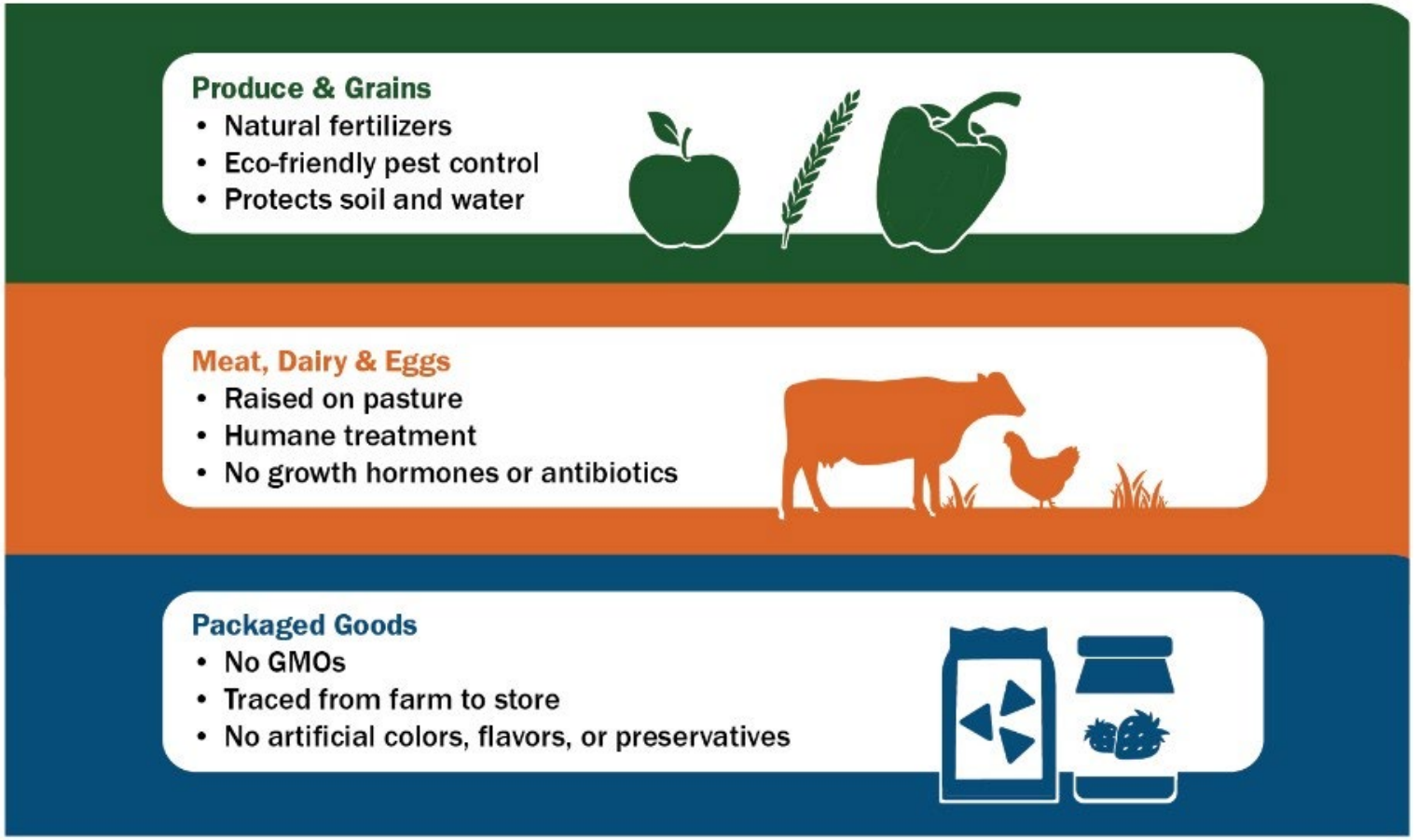
Pesticide Tolerances

- Tolerance is the maximum acceptable level of a pesticide that may be found in food
- The Food Quality Protection Act (FQPA)
  - Signed in 1996
  - Amended FIFRA and FFDCA
  - Requires EPA (& FDA) to set pesticide tolerances

Pesticide Tolerances

- The Food Quality Protection Act (FQPA)
  - How does EPA set tolerances?
    - EPA must make a safety finding
    - EPA must determine the pesticide can be used with a “reasonable certainty of no harm”
    - Consider susceptibility of children (using a 10x safety factor)
    - Consider aggregate risk from mult sources (food, water, residential)

Organic Farming



Organic Industry – Fun Facts

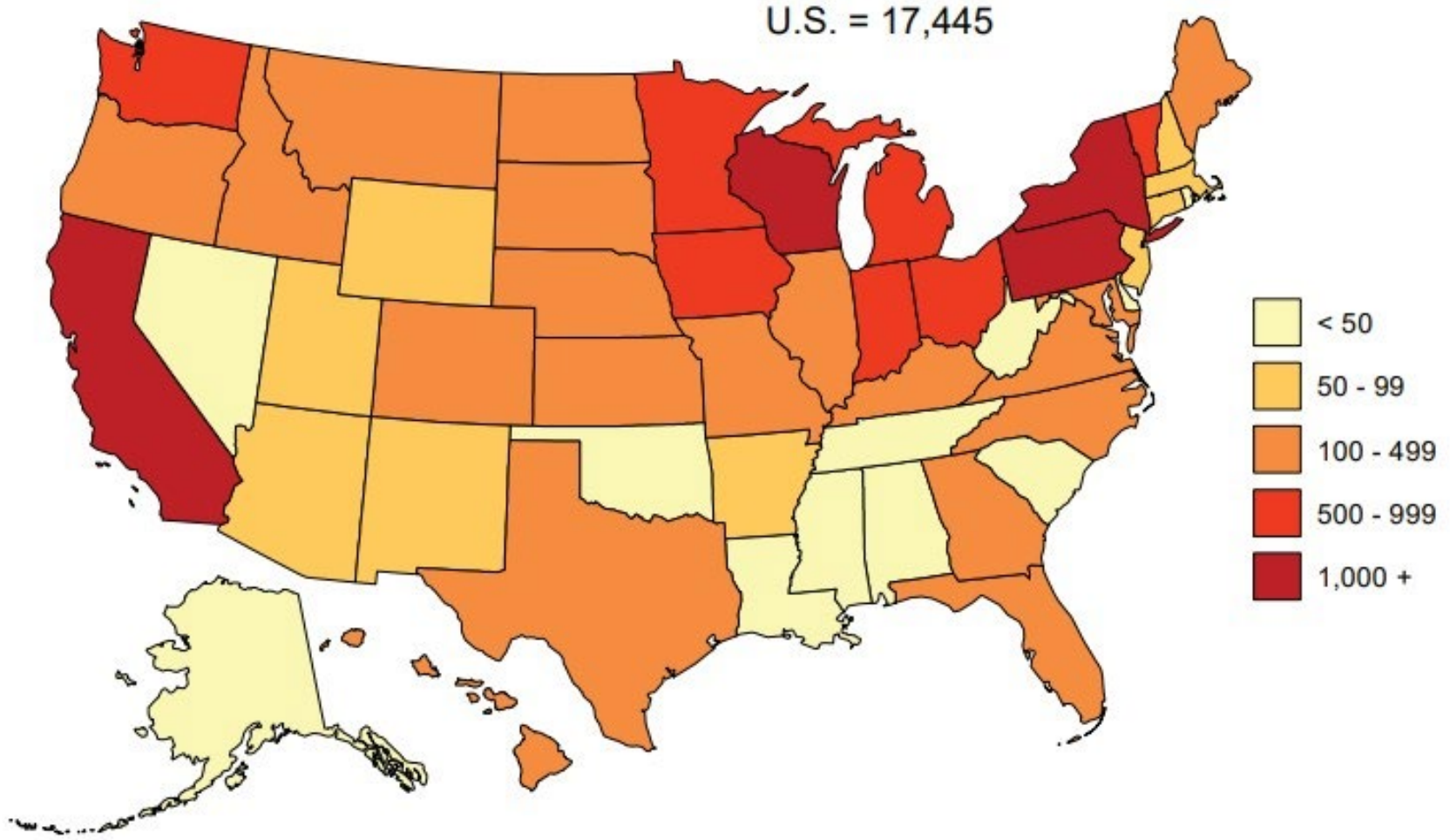
- Fun Facts supplied by:
- USDA National Agricultural Statistics Service (NASS)
  - 2021 Survey, released December 2022
  - https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Organic_Production/
  - https://www.nass.usda.gov/Publications/Highlights/2022/2022_Organic_Highlights.pdf

Organic Industry – Fun Facts

- As of 2021:
  - Fastest growing segment of U.S. agriculture
  - U.S. total sales of food and non-food products = $57.5 billion
  - 17,445 certified organic farms

- Directly from NIFA:
  - https://www.nifa.usda.gov/grants/programs/organic-agriculture-program

Number of Certified Organic Farms by State, 2021



Organic Industry – Fun Facts

Top states in certified organic sales:

1. California
2. Washington
3. Pennsylvania
4. Texas
5. Oregon
6. New York
7. Wisconsin
8. North Carolina
9. Michigan
10. Colorado

Organic Industry – Pennsylvania

- Pennsylvania
  - #1 in Organic Livestock & Poultry, $730 million
  - #1 in Organic Mushrooms, $95.4 million
  - #3 in number of certified organic farms = 1,125
  - Organic acreage in PA = 104,805 acres
    - Total PA farmland: 7.3 million acres

Organic Industry – Pennsylvania

- November 2, 2023
  - House Bill 157 (signed) re: 2023-24 budget
  - Creates PA Preferred Organic™ brand
  - "PA Preferred Organic™ is a PA Farm Bill initiative to grow market opportunities for Pennsylvania farmers and keep PA a national leader in organic production."
    - https://www.media.pa.gov/pages/agriculture_details.aspx?newsid=1348

Organic Foods Production Act

- Organic Foods Production Act provisions:
  - Established the National Organic Standards Board
  - Created the National Organic Program
  - Defined prohibited practices
  - Establishes a national list of approved and prohibited substances
  - Requires record-keeping for producers, handlers, & certifying agents
  - Procedures for investigation & enforcement

National Organic Program (NOP)

- Established: December 21, 2000
- Administered by the Agricultural Marketing Service (AMS)
- Website: https://www.ams.usda.gov/about-ams/programs-offices/national-organic-program

National Organic Program (NOP)

- Certifies products that are organically produced
- Prior to creation of the NOP, all certifications for organically produced products were provided by private organizations, under private voluntary standards or state law

National Organic Program (NOP)

- State officials or private persons can be accredited as organic certifying agents
- Each state is allowed to implement its own certification for producers and handlers
  - May be stricter than the NOP
  - All amendments to state programs must be submitted to USDA for approval

National Organic Program - Steps to Organic Certification

- To become a certified organic operation:
  - Organic production or handling plan must be submitted to an accredited certifying agent
  - Once the plan is submitted, an on-site inspection and records check will be completed
  - All fees must be paid to the certifying agent

National Organic Program - Plan

- Organic production or handling system plan must:
  - Be in writing
  - Describe all practices and procedures and the frequency with which they will be performed
  - Describe each substance used in production
  - Establish monitoring practices
  - Describe the producer or handler's record system
  - Describe any practices or physical barriers used to prevent co-mingling of organic and nonorganic products

Welcome to the Organic *INTEGRITY* Database!

Find a specific certified organic farm or business, or search for an operation with specific characteristics. Listings come from USDA-Accredited Certifying Agents. Historical Annual Lists of Certified Organic Operations and monthly snapshots of the full data set are available for download on the Data History page. Only certified operations can sell, label or represent products as organic, unless exempt or excluded from certification.

Certifier Reset

Advanced Search

Export To Excel

Operation	Certifier	Info	Status	City	State/Province	Country	Certified Products
			Certified		Enter State/Province	Enter Country	
" AGRIDELCA INNOVADORES AGRICOLAS SRL "	[IMOC] IMOcert Latinoamerica LTDA		Certified	Santiago		Dominican Republic	**HANDLING:** Fruits/Vegetables: Cantidad estimada: Limones Eureka fresco = 150.000,0 kg
"ALEF LIMITED COMPANY"	[EKOAGROS] Ekoagros		Certified	Dnipropetrovsk	Dnipropetrovsk region	Ukraine	**HANDLING:** Other: Corn, wheat... More
"ARATANIYA"LTD	[EKOAGROS] Ekoagros		Certified	Kherson	Kherson region	Ukraine	**HANDLING:** Other: Peas, sunflower... More
"ART SEED" LTD	[EKOAGROS] Ekoagros		Certified	Kherson	Kherson region	Ukraine	**HANDLING:** Other: Wheat, Rape, Barley, Corn, Sunflower, Soy.
"Cooperativa Agraria Y De Servicios Union De Cafetaleros Ecologicos" UNICAFEC	[OCIA] Organic Crop Improvement Association		Certified	San Ignacio	Cajamarca	Peru	**CROPS:** Other: Coffee
"Helianthus" Llc	[ETKO] Ecological Farming Control Organization		Certified	Pereshchepino city	Novomoskovsk distr.	Ukraine	**CROPS:** Other: Corn (Barley, Wheat, Mustard, Peas, Sunflower seed, Corn, Alfaalfa)
"KRYVOOZERSK'II OLIYNII ZAVOD ORGANIC" LIMITED LIABILITY COMPANY, "KOZ ORGANIC" LLC LLC	[ETKO] Ecological Farming Control Organization		Certified	Kiev		Ukraine	**HANDLING:** Other: Sunflower seed... More
"PARAISO FARMS" S.P.R. DE R.L. DE C.V.	[BAC] BioAgriCert		Certified	ZAMORA	MICHOACÁN	Mexico	**CROPS:**
"SCOOPS/PRO-LEF" ZOUTOU DE KOURINION	[CSYS] Certisys		Certified	Orodara		Burkina Faso	**CROPS:** Other: Cashew nuts
"STANDART" LLC	[EKOAGROS] Ekoagros		Certified	Moscow	Smolensk region	Russian Federation	**HANDLING:** Processed Items: Juice (Tomato juice... More

1 2 3 4 5 6 7 8 9 10 ... Page size: 10

44760 records in 4476 pages

National Organic Program - Labeling

- "No pesticides may be applied to certified organic crops" = false

National Organic Program - Labeling

- "**100 percent organic**" - means that all ingredients in the product must be organically produced
  - If residue testing reveals a prohibited substance, the product may not be labeled as 100% organic
- "**Organic**" - the product must contain at least 95% organic ingredients
- "**Made with organic ingredients**" - means that at least 70% of the ingredients are organically produced

DYK?

100% ORGANIC

Products produced using exclusively organic methods, containing only organic ingredients, are allowed to carry a label declaring "100 percent organic" and may use the USDA Organic Seal.

(Use of the USDA seal is optional)

ORGANIC

Products produced using exclusively organic methods that contain at least 95% organic ingredients may use the USDA Organic Seal.

(The other 5% must be non-GMO & on the National List)

MADE WITH ORGANIC

Products with 70% to 95% organic ingredients may display "Made with organic [with up to three specified ingredients or food groups]" on the front panel. The USDA Organic Seal may not be used, however products in this category MUST be certified through the same USDA organic certification process that is required for "100% Organic" and "Organic" label.

Organic Foods Production Act

- Organic Foods Production Act provisions:
  - Established the National Organic Standards Board
  - Created the National Organic Program
  - Defined prohibited practices
  - Establishes a national list of approved and prohibited substances
  - Requires record-keeping for producers, handlers, & certifying agents
  - Procedures for investigation & enforcement

National List

- The National List includes both allowed and prohibited substances
- https://www.ams.usda.gov/rules-regulations/organic/national-list

National List - exemptions

- The USDA is responsible for providing exemptions for certain synthetic substances in organic production
  - Such substances are allowed if :
    - They are not harmful to human health or the environment
    - If necessary for production
    - No wholly natural substitute is available; *and*
    - The use of the substances are consistent with organic farming

National List

- Pest management is a major issue on organic operations
  - 7 CFR § 205.605
  - https://www.law.cornell.edu/cfr/text/7/205.271
- Pest control can include:
  - Mechanical/physical controls: traps, light, or sound
  - If mechanical/physical controls do not work:
    - Lures or repellants using non-synthetic or synthetic substances on National List

National List

- Pest management
  - If traps/light/sound and approved substances from National List do not work:
    - A synthetic substance **not** on the National List may be used **if:**
      - "the handler and certifying agent agree on the substance, method of application, and measures to be taken to prevent contact of the organically produced products or ingredients with the substance used."
    - The handler must update the operation's organic handling plan
      - The updated organic plan must include a list of all measures taken to prevent contact of the organically produced products or ingredients with the substance used.

National List

- Exceptions:
  - For natural disasters or draught, some variances will be granted from the regulations

How Do I know what Products are Approved for Organic Use?

- Environmental Protection Agency (EPA) voluntary labeling program for pesticide products that meet NOP criteria:

Logo with text:

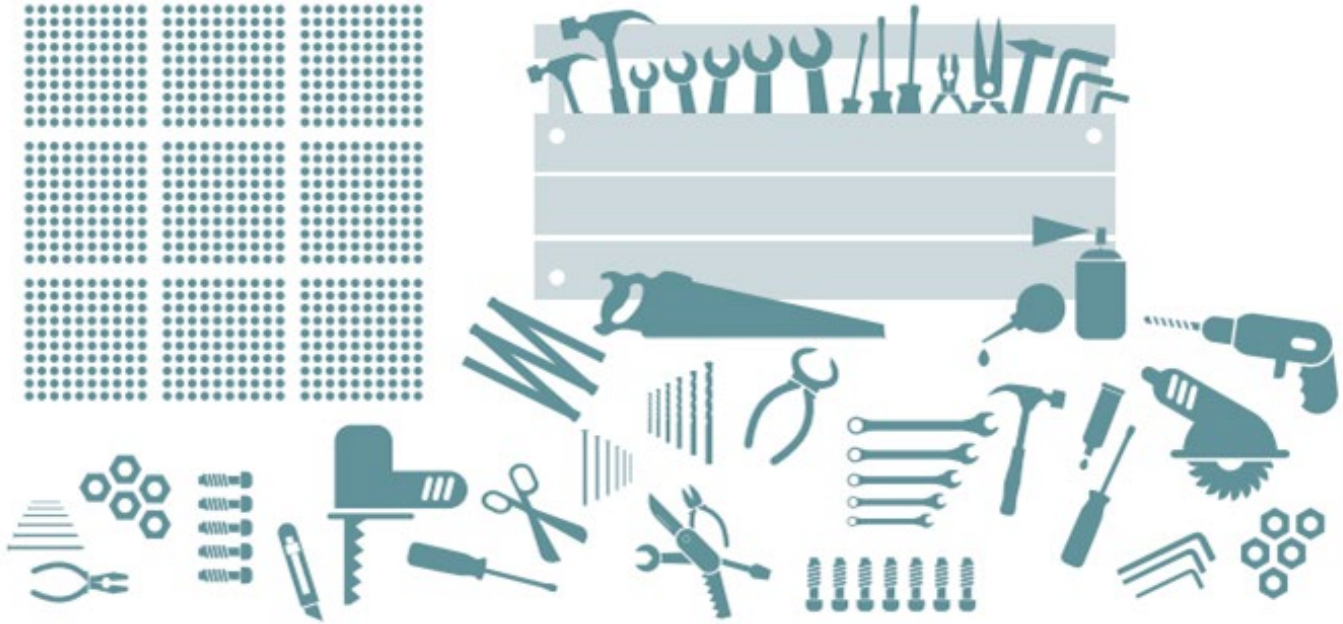
Logo without text:

How do the synthetic pest control products allowed in organic farming compare to the pesticides allowed in conventional farming?

25 synthetic active pest control products allowed in organic crop production

The organic farmer must first use mechanical, cultural, biological and natural materials and move onto the toolbox only when and if they don't work. In this way the toolbox is "**restricted**."

900+ synthetic active pesticide products registered for use in conventional farming by EPA*



*Ware, George W and Whitacre, David M. The Pesticide Book 6th Edition. 2004

Organic Trade Association | www.OTA.com

Organic Foods Production Act

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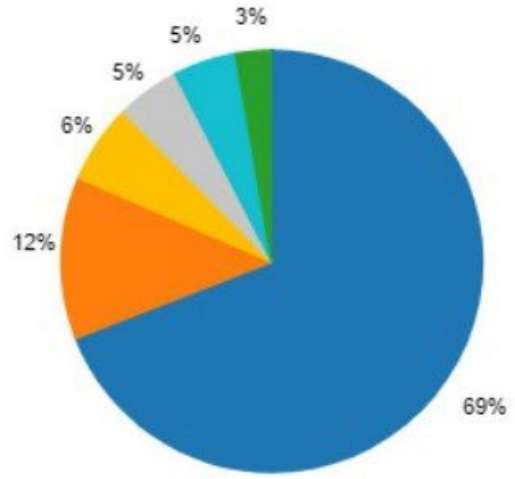
Investigation and Enforcement

- Organic standards are enforced by The Agricultural Marketing Service and Organic Certifiers
- Organic Certifiers enforce organic regulations by:
  - Inspecting organic farms/business annual
  - Collecting samples
  - Investigating alleged violations
  - Entering settlement agreements to correct violations
  - Suspending certification
- https://www.ams.usda.gov/services/enforcement/organic

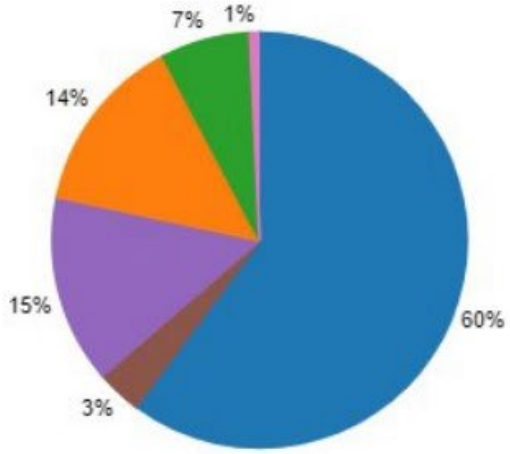
Overview of Complaint Case Types and Case Outcomes for 2023

327 Cases in Progress
As of 12/31/2023



- Uncertified Operation Making Organic Claims
- Fraud
- Pesticide Residues
- Labeling Error
- Prohibited Practices
- Prohibited Substance Used

499 Closed Cases by Outcome
12 Months Ending 12/31/2023



- Voluntary Compliance
- Settlement, Civil Penalty, Appeal
- Referred for Investigation
- No Violation
- Fradulent Certificate Posted
- Administrative Actions

https://www.ams.usda.gov/sites/default/files/media/NOP2024SummaryofActivitiesReport.pdf

USDA U.S. DEPARTMENT OF AGRICULTURE

Pesticide Drift

What is it and how does it happen

Pesticide Drift – Definition

- What is Pesticide (or herbicide) Drift?
  - "airborne movement of pesticides from an area of application to any unintended site"
    - -National Pesticide Information Center
- What causes pesticide drift?
  - High winds
  - Fog
  - Application of pesticides before hot weather
    - (temperature inversion)
  - Incorrect mechanical application (wrong spray nozzle, spraying too high, etc.)

Impact of Pesticide Drift

- Pesticide drift can impact:
  - Humans, especially those with a high chemical sensitivity
  - Environment, especially sensitive plants
  - Agriculture, especially sensitive crops and organic crops

Impact of Pesticide Drift

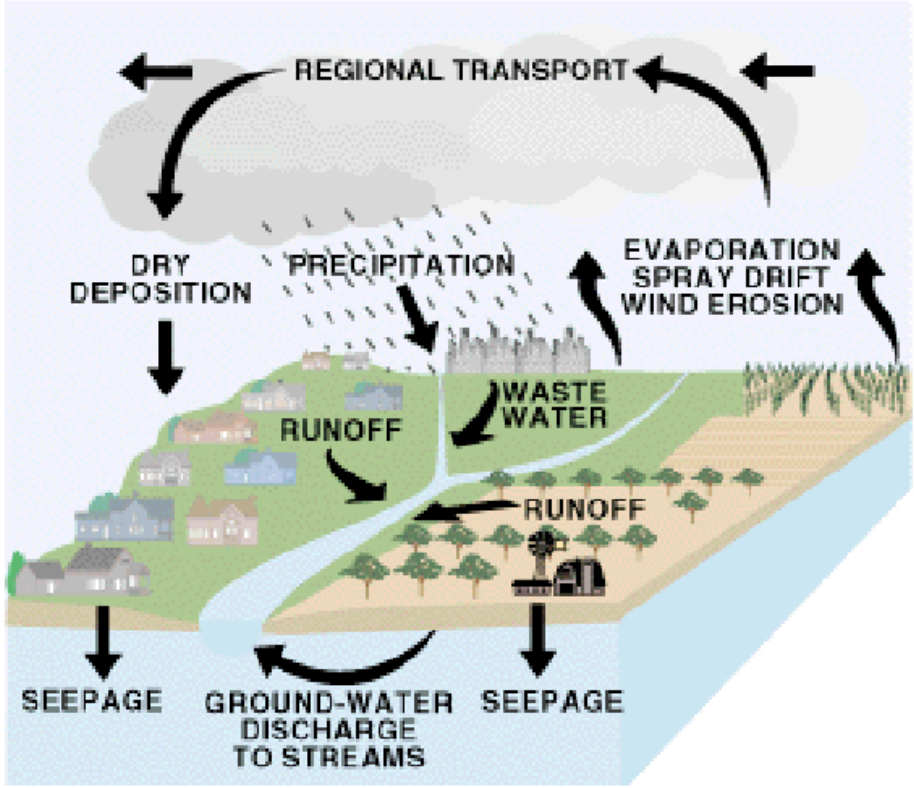
- Pesticide drift can impact:
  - Humans, especially those with a high chemical sensitivity
  - Environment, especially sensitive plants
  - Agriculture, especially sensitive crops and organic crops

Impact: Toxicity to Humans

- Interactions of pesticides with other chemicals, especially pharmaceuticals, is generally poorly understood
- Animal testing of pesticides does not always produce reliable predictions of the effects of pesticides in humans

Issues: Environmental Impacts

- Many pesticides persist in the environment for long periods of time
- Pesticides get concentrated in the food chain and cause toxicity to predators
  - Some predators, particularly fish, are consumed by humans



Pesticide Drift – Organic Obligations

- Is there way to prevent drift and runoff?
- NOP requires organic farms to use a buffer zone
  - Usually start at 50 feet
  - trees, shrubs, grasses
  - May be increased if there is a greater risk
  - Designed to protect farm from airborne **and** waterborne contaminants

Pesticide Drift – Organic Options

- If any action of a neighbor using conventional farming methods results in a decertification decision, often the remedy comes out of a negligence tort action
- When state law and the facts of the case permit the use of an intentional tort theory (trespass or strict liability), the organic producer has a better chance of recovery

Pesticide Drift Liability

Legal Theories

Pesticide Tort Actions

- Applicators may be sued when the chemical that they are applying is found off-site
- Chemicals find their way off-site for a variety of reasons:
  - The chemical may have been sprayed outside of the target area (overspray)
  - The chemical may have been sprayed on the target area, but wind carried it off the target area
  - The chemical may have reached the target crop, but volatized and been carried outside of the target area
  - The chemical may have been washed off by the action of water

Liability Theories

- Applicator or Landowner legal liability
  - Strict liability
  - Trespass
  - Nuisance
  - Negligence
- Products Liability
  - Claims against manufacturers

Product Liability Lawsuits – *examples*

- Agricultural Law Issue Trackers – Glyphosate
  - https://aglaw.psu.edu/research-by-topic/issue-tracker/glyphosate-test/#litigation-federal-california
- Monsanto Roundup Trial Tracker
  - https://usrtk.org/monsanto-roundup-trial-tracker-index/

Applicator Legal Liability – Strict Liability

- Strict Liability
  - A person who engages in an “ultrahazardous activity” or “abnormally dangerous activity” is strictly liable for injuries proximately caused by the activity
  - Typical Examples: Use or storage of explosives or hazardous chemicals

Applicator Legal Liability – Strict Liability

- Is aerial application of pesticides an **ultrahazardous activity**?
  - 27 States directly address this
  - 8 states = yes (strict liability)
  - 19 states = no

https://agrilife.org/texasaglaw/files/2020/03/50-State-Survey.pdf

Applicator Legal Liability – Strict Liability

- Pennsylvania
  - *Villari v. Terminix Int'l, Inc.* 663 F. Supp. 727 (E.D. Pa. 1987)
  - Pesticide application in the home was not an ultrahazardous activity
  - (the court, however, did allow a strict products liability claim)
- Other State Case Examples:
  - *Loe v. Lenhardt*, 227 Or. 242, 362 P.2d 312 (1961)
    - Crop dusting **is** ultrahazardous
  - *Bennett v. Larson Co.*, 118 Wis. 2d 681, 348 N.W.2d 540 (1984)
    - "pesticide spraying should **not** be considered an ultrahazardous activity"

Applicator Legal Liability – Strict Liability

- *Villari v. Terminix Int'l, Inc.* 663 F. Supp. 727 (E.D. Pa. 1987)
  - Pennsylvania section 519 and 520 Restatement (Second) of Torts
  - Factors of abnormally dangerous:
    - High risk of harm and likelihood of great harm
    - Inability to eliminate risk
    - Not common activity
    - Inappropriate location
    - Value to the community versus danger

Applicator Legal Liability – Trespass

- Trespass
  - intentionally physically interfering with the person or property of the plaintiff, or intentionally causing something to enter the plaintiff's land.

Applicator Legal Liability – Nuisance

- Nuisance
  - Interference or disruption of a person's private use and enjoyment of their land.

Applicator Legal Liability – Negligence

- Negligence is the primary theory
  - Trespass, nuisance, & strict liability are generally “tack-on claims”
- What is negligence?
  - Failure to act as a reasonable person would act under similar circumstances
  - Carelessness, thoughtlessness, oversight

Applicator Legal Liability – Negligence

- Negligence
  - Duty
  - Breach of Duty
    - What is the "Standard of Care"?
    - *Did the applicator fail to act in a reasonable manner to prevent damage from the pesticide/herbicide?*
  - Proximate causation
  - Actual Damages

Applicator Legal Liability – Proving Causation

- The most difficult challenges that plaintiffs have is proving causation
- How to prove drift occurred:
  - Positive tests from independent laboratory
  - Positive tests from state agency
  - Satellite Imaging

Applicator Legal Liability – Proving Causation

- Satellite Imaging
  - *Using Landsat satellite data to support pesticide exposure assessment in California*, International Journal of Health Geographics (2010)
  - https://ij-healthgeographics.biomedcentral.com/articles/10.1186/1476-072X-9-46
  - *Linking pesticides and human health: a geographic information system (GIS) and Landsat remote sensing method to estimate agricultural pesticide exposure*, National Library of Medicine (Sept 2017)
  - https://pmc.ncbi.nlm.nih.gov/articles/PMC5580968/

Applicator Legal Liability – Proving Causation

- If a state agency cites an applicator with a violation of FIFRA or state law, negligence *per se* applies
  - Proof of the violation establishes the first two elements of negligence
    - Duty
    - Breach of duty
  - Plaintiff must only prove causation and damages

Applicator Legal Liability – Negligence

1. What should a reasonably prudent herbicide applicator do to protect against non-target injury and potential lawsuits?
    1. Comply with laws & regulations
    2. Comply with best practices

When can a landowner be liable?

- In most states, a landowner won't be held liable for the actions of an independent contractor
- State exceptions where a landowner might be liable:
  - If the state considers aerial pesticide application to be inherently dangerous activity (the landowner would be co-liable with the contractor)

When can a landowner be liable?

- Is aerial application of pesticides an **inherently dangerous** activity?
  - 20 States directly address this
  - 16 states = yes
  - 4 states = no (so no co-liability with independent contractor)

When can a landowner be liable?

- National Agricultural Law Center, "50-State Survey: Landowner Liability for Pesticide Drift"
  - https://agrilife.org/texasaglaw/files/2020/03/50-State-Survey.pdf

  - *When can a landowner be liable?*
    - When aerial application is determined to be inherently dangerous.
  - *When is the applicator subject to strict liability?*
    - When the application of pesticides is found to be ultrahazardous.

Preventative Measures

Insurance

Insurance

- Insurance term: “Chemical drift”
- Landowners who apply for insurance:
  - Typical “farm policy” liability coverage may have some form of “pollution exclusion”
  - Talk to your agent; buy a “chemical drift liability endorsement”

Insurance

- Commercial applicators who apply for insurance:
  - Commercial General Liability Policy
  - Avoid insurance that has a pollution exclusion

Insurance

- Possible other exclusions:
  - Damage to *your* property, crops, or animals
  - Damage that you expect or intend to occur
  - Bodily injury to people
  - Government mandated testing or clean-up of pollutants

Insurance

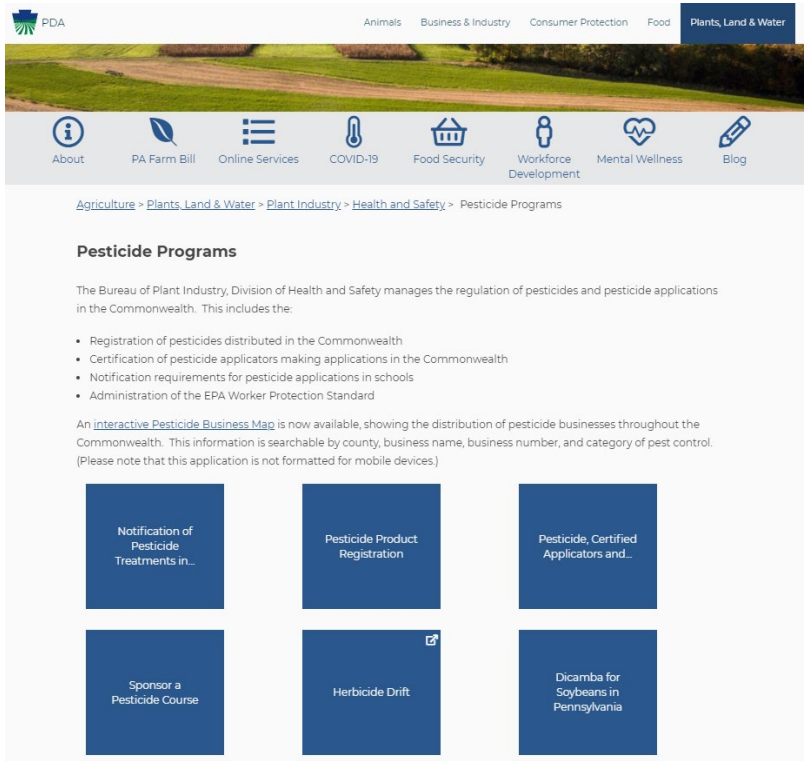
- Insurance coverage may be different for aerial application
- All claims should be reported to insurance carrier asap
- Delaying the investigation can lead to coverage reservation or denial

Insurance

- Additional reading:
  - *Liability Coverage for Chemical Drift*, The Grapevine (6/29/2020)

Avoid Negligence Claims

- Know & follow all EPA & PDA guidance
  - If you don't follow the rules/laws, your insurance company can't help you



Preventative Measures

Best Practices for Applicators

Best Practices for Applicators

- *Understanding Pesticide Drift and Drift Reduction Strategies*, Montana State University Extension
  - https://store.msuextension.org/publications/AgandNaturalResources/EB0233.pdf
- *Pesticide Drift Management*, Oregon State University (September 2007)
  - https://extension.oregonstate.edu/sites/extd8/files/documents/em8934.pdf
- *Pesticide Drift: Risk Management and Labeling*, U.S. Environmental Protection Agency (May 2019)
  - https://www.epa.gov/sites/default/files/2019-08/documents/d1-riskmanagementandlabeling.pdf
- *Herbicide Strategy to Reduce Exposure of Federally Listed Endangered and Threatened Species and Designated Critical Habitats from the Use of Conventional Agricultural Herbicides*, U.S. Environmental Protection Agency (August 2024)
  - https://directives.nrcs.usda.gov/sites/default/files2/1729777703/Exhibit%201%20EPA-Herbicide%20Strategy-Crosswalk.pdf

Best Practices for Applicators

- Read the label
- Select a low-volatility pesticide
  - 2,4-D ester – highly volatile
  - 2,4-D amine – lower volatility
- Select product that can be used with larger droplet size
- Apply during appropriate weather conditions (check for temperature inversion)
- Use drift reducing nozzles
- Use a drift retardant
- Go online and review FieldWatch or FieldCheck

https://store.msuextension.org/publications/AgandNaturalResources/EB0233.pdf

https://store.msuextension.org/publications/AgandNaturalResources/EB0233.pdf

Droplet	Width (μm)	Time to Fall 10 Feet	Travel Distance in 3mph Wind
Fog	5	66 minutes	3 miles
Very Fine	20	4 minutes	1100 feet
Fine	100	10 seconds	44 feet
Medium	240	6 seconds	28 feet
Coarse	400	2 seconds	8.5 feet
Extra Coarse	1000	1 second	4.7 feet

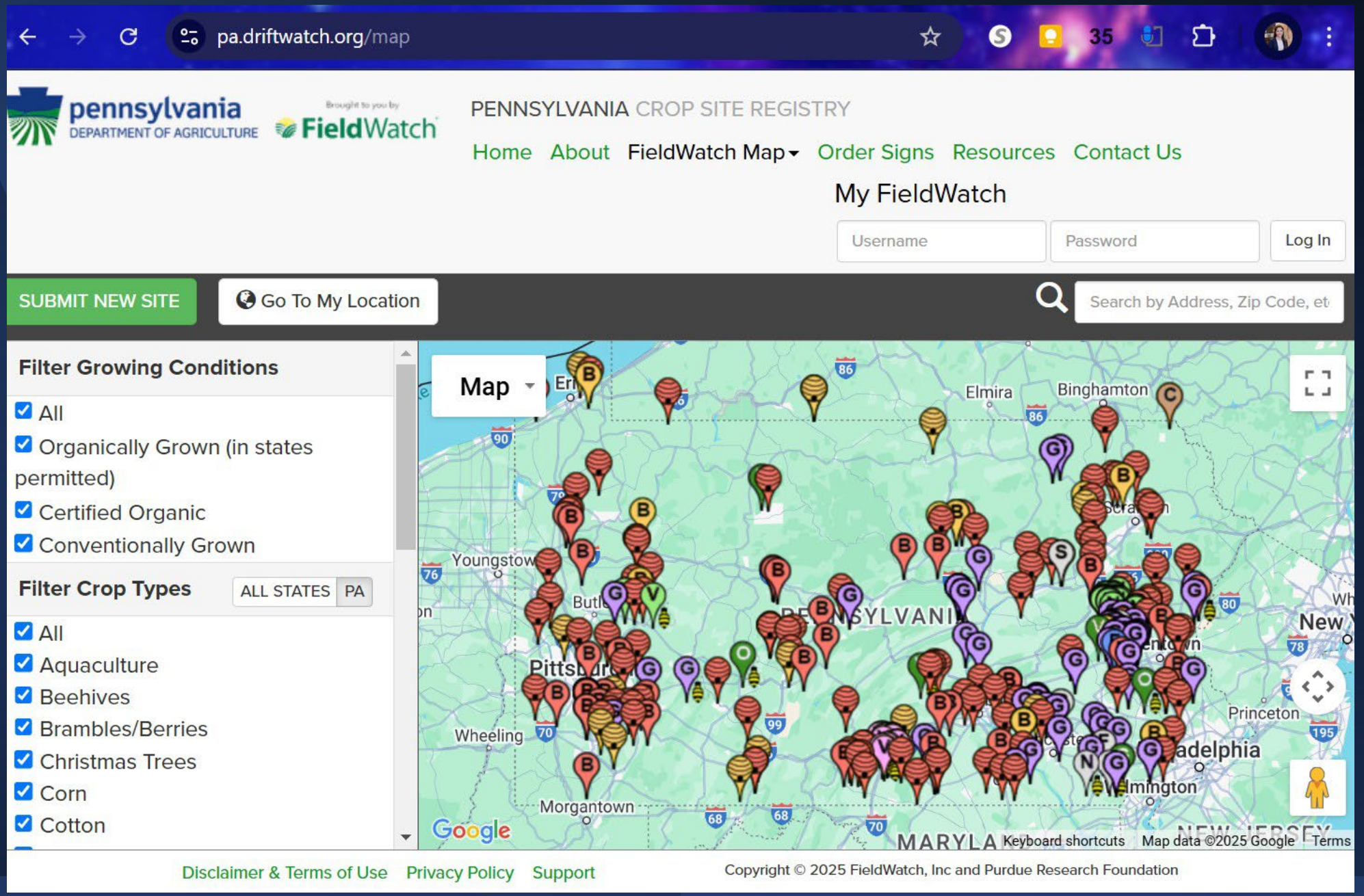
Table 1. Drift reduction through increased droplet size. Louisiana State University, 2019.

https://store.msuextension.org/publications/AgandNaturalResources/EB0233.pdf

Figure 5. An inversion can often be identified by low lying clouds, dust or smoke. This often occurs in the morning before dawn. Edan/Adobe Stock.

FieldWatch

- "FieldWatch is a free online tool from the Pennsylvania Department of Agriculture that helps protect crops and honeybees from accidental pesticide exposure."
  - **DriftWatch** helps specialty and row crop growers share where their crops are located.
  - **BeeCheck** lets beekeepers share where their hives are.
  - **FieldCheck** helps pesticide applicators find out where sensitive crops and hives are to avoid them.
- **"Participation** is optional. Registering does not stop pesticides from being used nearby. For help with registering, contact Shane Williams at stw5035@psu.edu or 814-863-9606."
- Register online here


pa.driftwatch.org/map
pennsylvania
DEPARTMENT OF AGRICULTURE
Brought to you by FieldWatch
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SUBMIT NEW SITE
Go To My Location
Search by Address, Zip Code, et
Filter Growing Conditions
All
Organically Grown (in states permitted)
Certified Organic
Conventionally Grown
Filter Crop Types
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All
Aquaculture
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After Drift Occurs

Next steps for organic growers

Checklist for Organic Growers

Before damage:

- ❑ Check insurance coverage
- ❑ Talk to your neighbors
- ❑ Signage
- ❑ Take pictures
- ❑ Share where your fields are located on Drift Watch

After damage:

- ❑ Take pictures
- ❑ Get plants tested
  - ❑ Dept of Agriculture
  - ❑ 3rd party laboratory
- ❑ Notify your organic certifier
- ❑ Assess damages
- ❑ Contact an attorney
- ❑ Consider out-of-court options
  - ❑ Agricultural Mediation Program

Organic Growers – Reporting and Testing

- Pennsylvania Department of Agriculture
  - Bureau of Plant Industry, Pesticide Programs
  - https://www.pa.gov/agencies/pda/plants-land-water/plant-industry/pesticide-programs.html
  - 717-772-5231 (general)
  - 717-772-5231 (incident reporting)
  - 717-772-5211 (registration)
- To search for pesticide products registered in Pennsylvania: https://www.npirs.org/state/

Organic Growers – Reporting and Testing

- Private Labs for Pesticide Residue Testing
  - Prepared by Practical Farmers of Iowa
  - Last updated: Feb. 23, 2017
  - https://practicalfarmers.org/wp-content/uploads/2018/10/Labs022317.pdf

PURDUE EXTENSION

PPP-110

Options for Dealing with a Pesticide Drift Incident

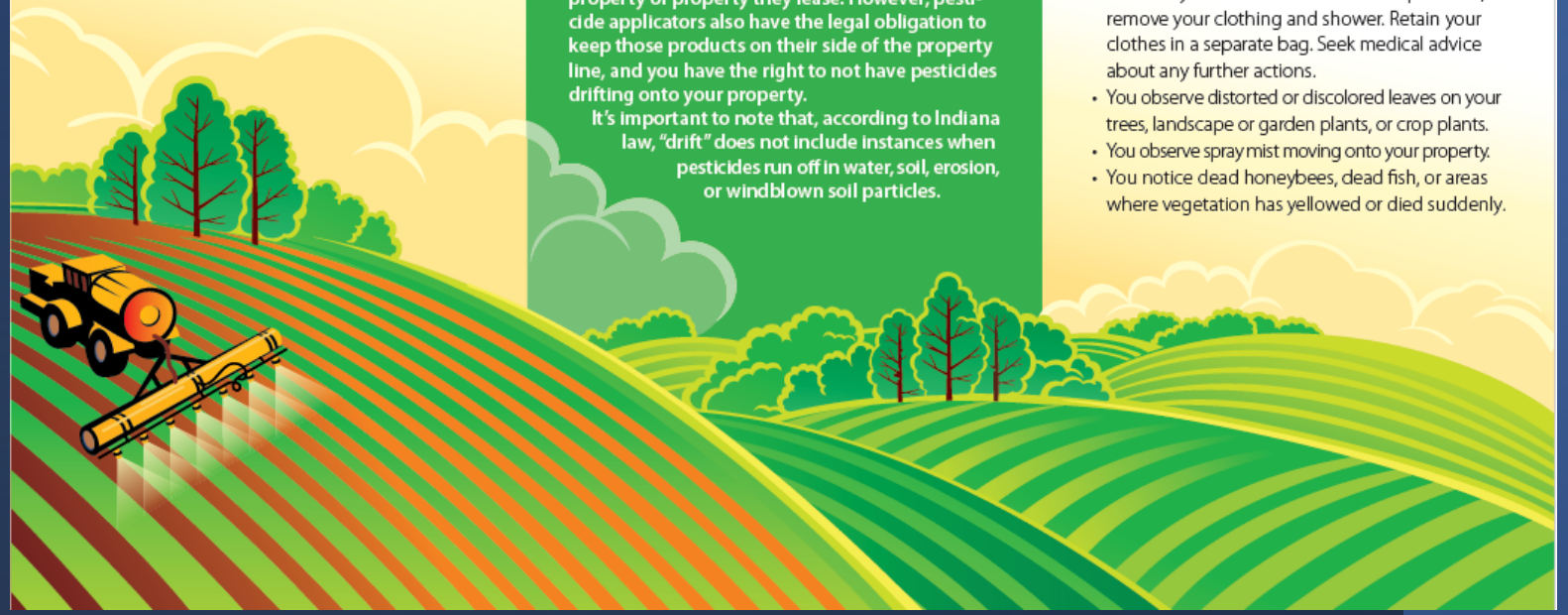
Michael O'Donnell, Purdue Extension Educator, Delaware County
Roy Ballard, Purdue Extension Educator, Hancock County
Fred Whitford, Director, Purdue Pesticide Programs
Joe Becovitz, Pesticide Investigator, Office of Indiana State Chemist

When farmers, businesses, government agencies, and homeowners use pesticides (insecticides, herbicides, and fungicides) to protect plants and property against insects, weeds, and diseases, the pesticide product must remain on the target site. When any pesticide moves through the air away from the target site and onto someone else's property — known as pesticide drift — the pesticide can damage non-target crops, landscape plants, and gardens. Drift can also injure people, companion animals, livestock, and wildlife.

Drift can have serious long-term economic consequences, too. If pesticide drift affects a neighbor's organic crop, that drift incident may knock the field out of the organic program for up to three years.

Pesticide drift can occur virtually anywhere — between neighboring farms, farms and residential properties, or neighboring residential properties. Whether it's a next-door neighbor or a farmer who owns the field adjacent to your property, they have the legal right to apply pesticides to their property or property they lease. However, pesticide applicators also have the legal obligation to keep those products on their side of the property line, and you have the right to not have pesticides drifting onto your property.

It's important to note that, according to Indiana law, "drift" does not include instances when pesticides run off in water, soil, erosion, or windblown soil particles.



When Can Pesticide Drift Occur?

When thinking about pesticide drift, know that it:

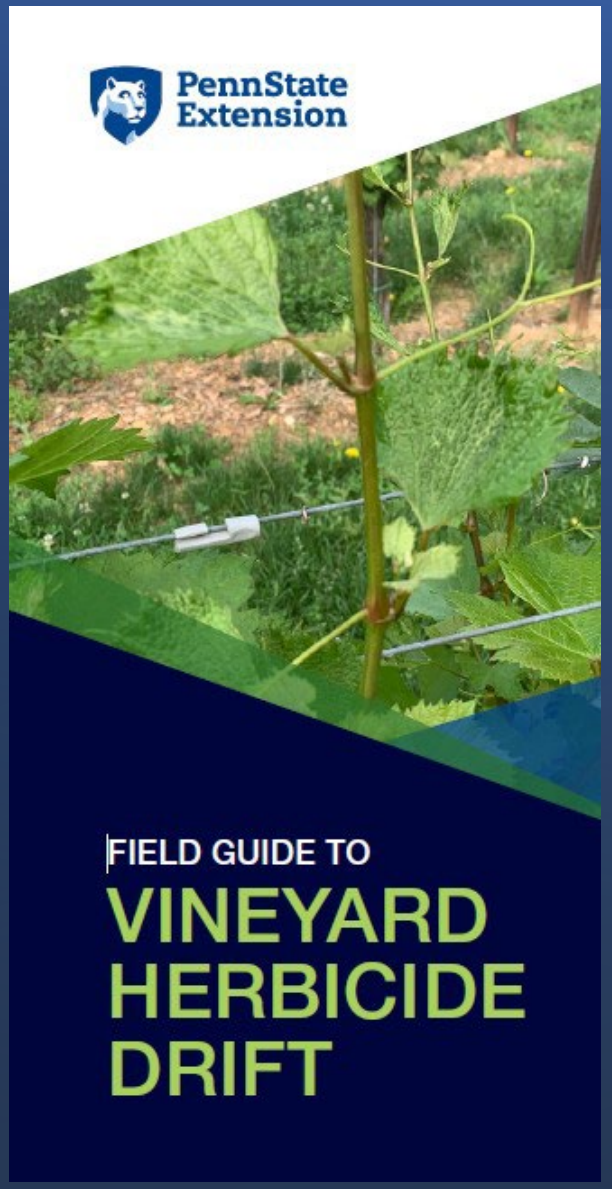
- Can occur in all weather conditions including high *and* low wind speeds.
- Can occur on your own property and in public areas such as parks, pools, and schools.
- May or may not be associated with a strong chemical smell.
- May have occurred on your property even if there is no immediate evidence of physical injury.

What Are Signs of Drift?

Pesticide drift can harm human health or damage plants and other properties. Here are some things that may occur that should make you consider pesticide drift:

- You felt a pesticide application spray physically touch you. Direct exposure to pesticides is a serious matter and you should never treat it lightly. Pesticide exposure may require immediate action. If you come in contact with a pesticide, remove your clothing and shower. Retain your clothes in a separate bag. Seek medical advice about any further actions.
- You observe distorted or discolored leaves on your trees, landscape or garden plants, or crop plants.
- You observe spray mist moving onto your property.
- You notice dead honeybees, dead fish, or areas where vegetation has yellowed or died suddenly.

https://ag.purdue.edu/department/extension/ppp/ppp-publications/ppp-110.pdf



Contents

FIGURE 6

Figure 6. Herbicide damage (likely from particle/droplet drift) effects on Chardonnay. Symptoms were most evident near the edge of the block immediately adjacent to the field where herbicide was applied. A "commercially acceptable" crop yield was harvested from this same block the year following herbicide damage.

FIGURE 7

Figure 7. Herbicide damage in grapevines. Symptoms resemble those associated with 2,4-D damage (left) and dicamba damage (right). Photo on right courtesy of Dr. Rob Crassweller.

https://extension.psu.edu/field-guide-to-vineyard-herbicide-drift

Dispute Resolution

Lawsuits and other options

Restitution

- Options for financial compensation:
  - Hire an attorney & file a lawsuit
  - Informal agreement with the applicator/landowner
  - Mediation

Pennsylvania Agricultural Mediation Program

- Who can request mediation?
  - USDA-related issues:
    - Agricultural Loans
    - Wetlands determinations
    - Compliance with farm programs, including conservation programs
    - National organic program established under the Organic Foods Production Act of 1990
    - Agricultural Credit
    - Rural water loan programs
    - Grazing on National Forest System land
    - **Pesticides**
  - Non-USDA issues:
    - Lease issues; including land leases and equipment leases.
    - Family farm transition.
    - Farmer-neighbor disputes

Pennsylvania Agricultural Mediation Program

- Who conducts mediation?
  - Impartial 3rd party mediator
- If an agreement is not reached, the requestor may seek appeals or legal action

Pennsylvania Agricultural Mediation Program

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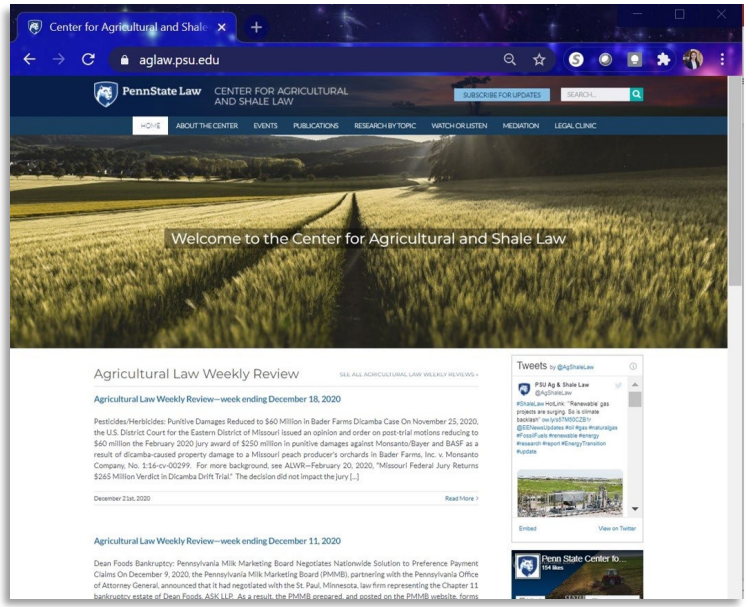
AgMediation@PennStateLaw.psu.edu

Website: www.PAAgMediation.com

Center for Agricultural and Shale Law

https://aglaw.psu.edu

- Agricultural Law Weekly Review
- Shale Law Weekly Review
- Agricultural Law Virtual Resource Rooms
- Shale Law Virtual Resource Rooms
- Agricultural Law Tracker
- Shale Law Tracker
- Agricultural Law Podcast
- Social Media
  - Twitter, Facebook, LinkedIn
- Presentations
- PA Ag Mediation Program



Looking Ahead

Possible Future Pesticide Drift Topics

Looking Ahead: Cannabis

- Cannabis and pesticide drift
  - https://pmc.ncbi.nlm.nih.gov/articles/PMC6785225/

Questions?

Thank you!

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