

# PESTICIDE DRIFT

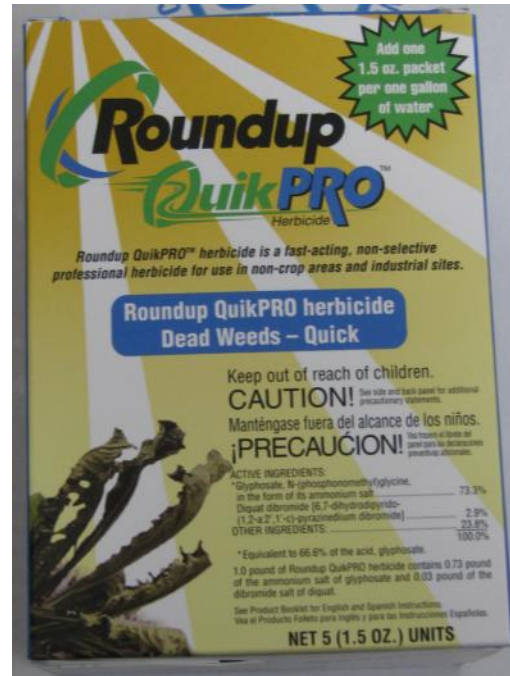
Kansas Department of Agriculture  
Pesticide and Fertilizer Program

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Compliance Investigator  
North Central Region

- Pesticides and Drift
- What can you do about drift?
- KDA's role

# What is a Pesticide?

- Insecticide
- Rodenticide
- Fungicide
- Herbicide
- Virucide
- Avicide
- .....



# What laws cover drift in Kansas?

- F.I.F.R.A, Federal Insecticide Fungicide and Rodenticide Act
  - Registration of pesticides, label requirements, etc.
- Kansas Pesticide Law
  - Applicator certification, business licensing, dealer registration, unlawful acts, penalties, etc.
  - KSA 2-2453 prohibits use inconsistent with the product label

Purpose is to protect health, environment, property

# EPA-registered Label = Federal Law

## SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

### Droplet Size

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a Coarse or coarser spray, apply only as a Coarse or coarser spray (ASAE standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a medium or more fine spray, apply only as a Medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

### Wind Speed

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a Medium spray, leave one swath unsprayed at the downwind edge of the treated field.

### Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

# What is Pesticide Drift?

Off-target movement of pesticides

- Fine droplets or particles
- Application pressure, nozzle type, boom height
- Weather
- Volatility (vapor)

# What does drift look like?











# Routes of Exposure: Outside the Hive

- Exposure is most likely to occur during foraging hours and at points of contact (foliage, pollen, nectar, water, and propolis).
- Direct application to foliar surfaces or exposed nectar/pollen creates an immediate route of exposure.
- Systemic pesticides, which are incorporated into plant tissues, may expose field bees and hive bees to pesticide-laced foliage, nectar, pollen, and possibly propolis.
- Bees can die of acute toxic exposure before returning to the nest or chronically by carrying pesticide residues back to the nest which may produce sub-lethal effects.

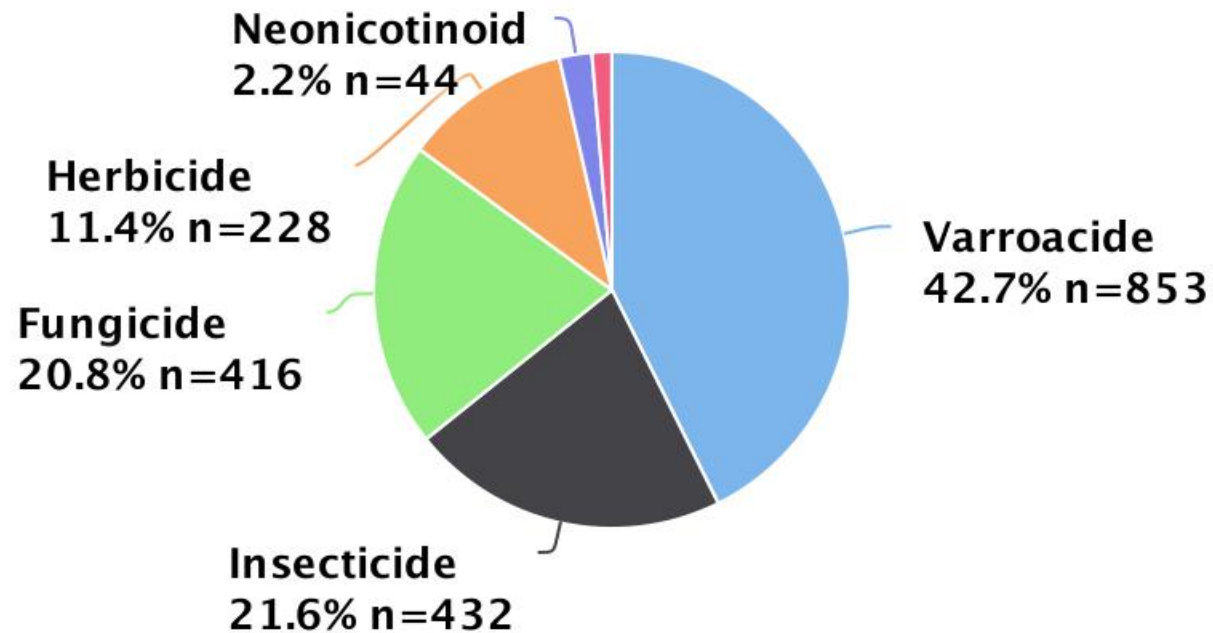
J. D. Ellis, J. Klopchin, E. Buss, F. M. Fishel, W. H. Kern, C. Mannion, E. McAvoy, L. S. Osborne, M. Rogers, M. Sanford, H. Smith, P. Stansly, L. Stelinski, and S. Webb



# Pesticides Found in Hives

## Pesticides Category Distribution for All Years

# of samples = 763



# What can you do about drift?

Be proactive:

Talk to your neighbors who apply pesticides

Contact your county Noxious Weed Dept.

Reach out to pesticide businesses

like Co-ops and spray pilots

**Register with DriftWatch**

# DriftWatch

https://driftwatch.org/

DriftWatch - Home

File Edit View Favorites Tools Help

**FieldWatch**  
Communication, Cooperation, Collaboration.

Home About **FieldWatch Map** Order Signs Resources Contact Us

My FieldWatch

Username Password Log In

## Welcome to FieldWatch™ 2016

*Communication + Cooperation + Collaboration = Successful Co-existence*

This site is a voluntary communication tool that enables crop producers, beekeepers, and pesticide applicators to work together to protect specialty crops and apiaries through use of mapping programs. It is not a substitute for any state regulatory requirements.

For more resources and information, please visit [FieldWatch, Inc.](#)



### Access My Map

If you are a producer or an applicator and already have a FieldWatch, BeeCheck, or DriftWatch Account, log in here.

### Don't have a FieldWatch Account yet?

 **Map My Specialty Crops**

11:00 AM  
6/6/2016

Commercial growers of sensitive crops like cotton, grapes, or vegetables, or anyone with beehives, may register their location on the web.

# WWW.DriftWatch.org

The screenshot displays the FieldWatch Kansas Specialty Crop Site Registry website. The browser address bar shows the URL <https://ks.driftwatch.org/map>. The page header includes the FieldWatch logo with the tagline "Communication, Cooperation, Collaboration" and the text "KANSAS SPECIALTY CROP SITE REGISTRY". Navigation links include Home, About, FieldWatch Map, Order Signs, Resources, and Contact Us. A "My FieldWatch" section contains input fields for Username and Password, and a Log In button. Below the header is a dark navigation bar with a green "SUBMIT NEW SITE" button, a "Go To My Location" button, and a search bar with the placeholder text "Search by Address, Zip Code, etc.". On the left side, a list of crop types is shown with checkboxes, including Beehives, Berries, Cotton, Fish Farm, Grapes, Greenhouse - High Tunnel, Legumes, Mint, Spices or Herbs, Non-specialty Certified Organic, Non-specialty Transition to Certified Organic, Nursery Crops, Orchard (Nuts, Fruit, Trees), Pastures, Pumpkins or Melons, Specialty Farms, and Specialty Grain Crop. The main content area features a satellite map view of a field with a red polygon highlighting a specific area labeled "Orchard". The map includes a "Satellite" dropdown menu, a person icon, and zoom controls. The footer contains copyright information: "Copyright © 2016 FieldWatch, Inc and Purdue Research Foundation" and links for Disclaimer and Support.

# Benefits of DriftWatch

User friendly

One place to see where sensitive crops are grown.

Applicators can sign up for email notification of new registrations.

The screenshot displays the FieldWatch website interface. At the top, the navigation bar includes the FieldWatch logo, the text "KANSAS SPECIALTY CROP SITE REGISTRY", and links for Home, About, FieldWatch Map, Order Signs, Resources, and Contact Us. Below this is a "My FieldWatch" section with fields for Username and Password, and a Log In button. A "SUBMIT NEW SITE" button and a "Go To My Location" button are also visible. A search bar prompts users to "Search by Address, Zip Code, etc.". The main content area features a map of Kansas with numerous colored markers (green, yellow, purple, red) indicating registered sites. A sidebar on the left lists various crop types with checkboxes, including Non-specialty Certified Organic, Nursery Crops, Pastures, and Tomatoes. Below the sidebar, there are "Map Overlays" options like State Apiary Distance and County Lines. The footer contains a Disclaimer, Support link, and copyright information for FieldWatch, Inc. and Purdue Research Foundation. The Windows taskbar at the bottom shows the time as 4:19 PM on 6/7/2016.



# DriftWatch Statistics

## (Kansas, November 2016)

- 392 producers
- 12,406 acres
- 263 apiaries
- 666 bee hives
  
- Applicators: 95

# KDA's role:

## Investigate Drift complaints

- 2014: 76 investigations
- 2015: 73 investigations
- 2016: 110 investigations
  
- Mostly agriculture-related

# Filing a Complaint

- **Why would people not file a complaint?**

They may want to settle privately for damages. KDA only determines compliance with pesticide laws.

Don't know who to call, not aware of KDA's service.

"I don't want my neighbor mad at me."

- **Before filing a complaint:**

KSU Extension may identify non-pesticide causes for symptoms, such as insect pests, environment, or disease.

# Agriculture.KS.gov: Services



The screenshot shows the homepage of the Kansas Department of Agriculture website. The header features the state motto "AGRICULTA PER ASPERA" above the "Kansas Department of Agriculture" logo and the tagline "Serving the State's Largest Industry". A search bar and text size controls are also present. The navigation menu includes links for Home, About Us, News & Events, Divisions & Programs, Services, Document Services, FAQs, and Contact Us. The main content area displays a news article titled "KANSAS DEPARTMENT OF AGRICULTURE RECEIVES SPECIALTY CROP BLOCK GRANT" with a photograph of raspberries and blackberries. The article text states that the department has received a \$283,597.28 grant from the USDA to support specialty crop producers. Below the article is a "Latest KDA News" section with a link to "KDA Seeks Participants for Agricultural Trade Mission to Russia" dated Nov 10, 2016. Social media icons for Facebook, Twitter, Pinterest, and YouTube are visible, along with a button for the "AG GROWTH SUMMIT".

ulture.ks.gov/ | Kansas Department of Agric... x

Tools Help | Office 365 | Pesticide Inspector Regulator...

login | Pollinator Protection - Asso... | Kansas Department of Agric... | Office 365 | Pesticide Inspector Regulator...

**Kansas** Department of Agriculture  
Serving the State's Largest Industry

Search | Text Size: aA | aA | Reset

Home | About Us | News & Events | Divisions & Programs | **Services** | Document Services | FAQs | Contact Us

### KANSAS DEPARTMENT OF AGRICULTURE RECEIVES SPECIALTY CROP BLOCK GRANT

The Kansas Department of Agriculture has been awarded \$283,597.28 through the Specialty Crop Block Grant Program within the U.S. Department of Agriculture, a program which serves to enhance opportunities for specialty crops. According to the USDA, specialty crops are defined as "fruits, vegetables, tree nuts, dried fruits, horticulture and nursery crops, including floriculture." KDA has selected several recipients to further utilize the funds through specific projects.

[Read more](#)

#### Latest KDA News

- [KDA Seeks Participants for Agricultural Trade Mission to Russia](#)  
Nov 10, 2016  
The Kansas Department of Agriculture is seeking individuals to participate in an agricultural

AG GROWTH SUMMIT

# Services: Comments and Complaints

The screenshot displays the website for the Kansas Department of Agriculture. The browser's address bar shows the URL <http://agriculture.ks.gov/kda-services>. The page features the department's logo with the motto "QUAERERE PER ASPERAM" and the text "KANSAS DEPARTMENT OF AGRICULTURE Serving the State's Largest Industry". A search bar is located on the right side of the header.

The navigation menu includes: Home, About Us, News & Events, Divisions & Programs, **Services**, Document Services, FAQs, and Contact Us. The "Services" menu is open, listing the following options: Licensing Guides, Comments and Complaints, Grants and Cost-Share Programs, Kansas Commodity Commissions, Unusual Event Report (2-620 rev), Export Inspections (Foreign or Domestic), Soil Fumigation Notification, Weed Free Forage Inspection, Export Certificate Application, and Live Plant Inspection Application.

The main content area is titled "Licensing Guides" and includes a breadcrumb trail: Home > Services > Licensing Guides. The text on the page reads: "Starting a new business? Looking for different business licensing process transparent and efficient..." and "Starting a new business? Look no further. Below are links to resources developed to make this process..."

The footer of the page contains the URL <http://agriculture.ks.gov/kda-services> and the text "Reach the web and Windows".

# Scroll down...

The screenshot shows a web browser window displaying the Kansas Department of Agriculture website. The address bar shows the URL: <http://agriculture.ks.gov/kda-services/complaint-form>. The browser's address bar also shows the page title: "Kansas Department of Agric...".

The website header features the Kansas Department of Agriculture logo, the text "KANSAS DEPARTMENT OF AGRICULTURE", and the tagline "Serving the State's Largest Industry". A search bar and text size controls are also visible.

The navigation menu includes: Home, About Us, News & Events, Divisions & Programs, Services, Document Services, FAQs, and Contact Us.

The main content area is titled "Comments & Complaints" and includes a breadcrumb trail: Home > Services > Comments and Complaints. Below the title is a section labeled "COMMENTS".

The text reads: "We appreciate any comments that will help us serve you better."

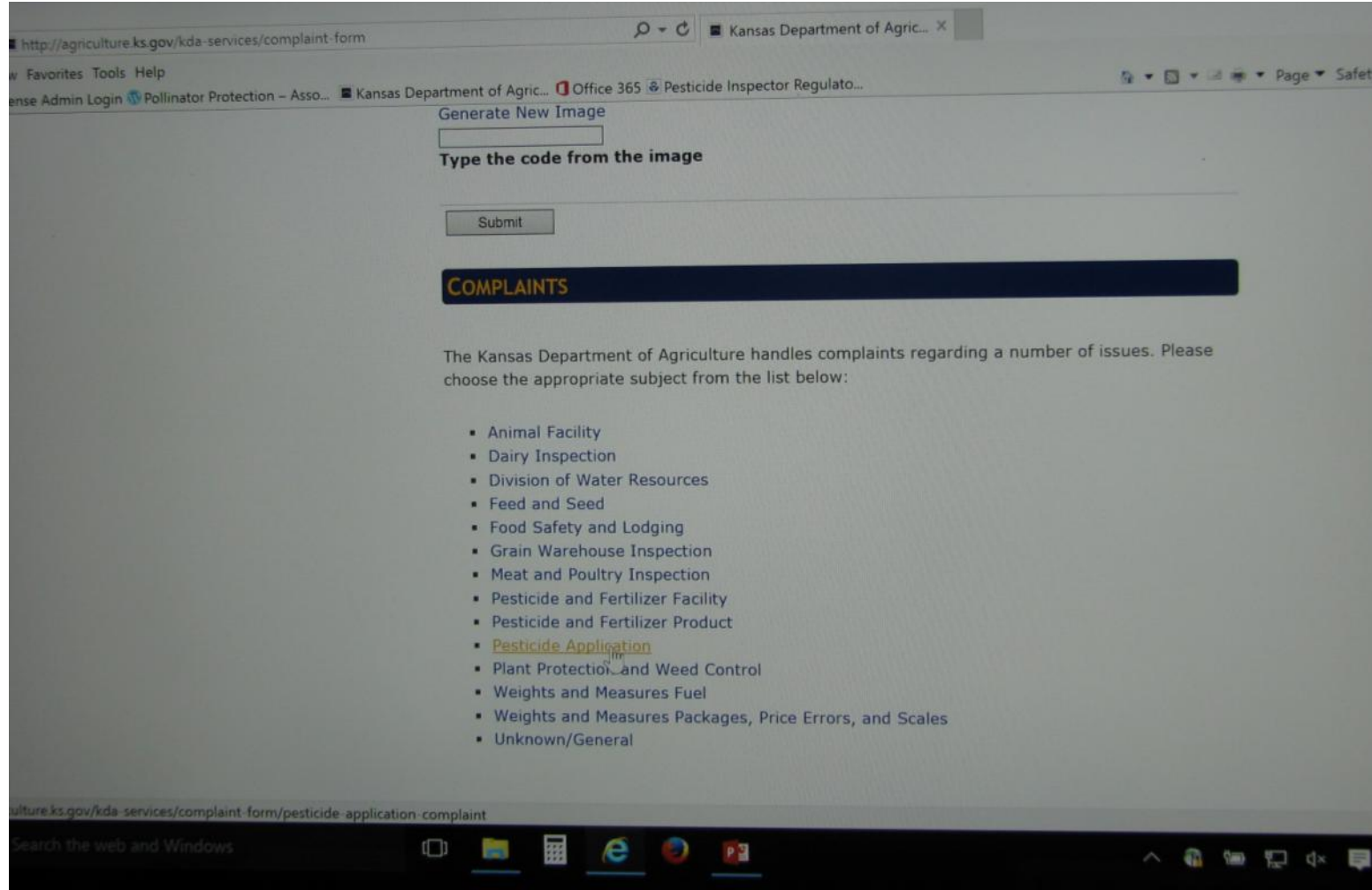
A note states: "Required fields are marked by an asterisk (\*)."

The form contains the following fields:

- Name:
- Email Address:
- \* Comments:

The Windows taskbar is visible at the bottom of the screen, showing the search bar and several application icons.

# ...to *Pesticide Application*



# Fill in this form...

The image shows a screenshot of a web browser displaying the Kansas Department of Agriculture website. The browser's address bar shows the URL: `are.ks.gov/kda-services/complaint-form/pesticide-application-complaint`. The page title is "Pesticide Application Compl...". The website header features the Kansas Department of Agriculture logo with the motto "NO ANTRA PER ASPERA" and the text "KANSAS DEPARTMENT OF AGRICULTURE Serving the State's Largest Industry". A search bar and text size options (aA | aA | Reset) are also present. The navigation menu includes: Home, About Us, News & Events, Divisions & Programs, Services, Document Services, FAQs, and Contact Us. A left sidebar lists various services: Licensing Guides, Comments and Complaints, Grants and Cost-Share Programs, Kansas Commodity Commissions, Unusual Event Report (2-620 rev), Export Inspections (Foreign or Domestic), Soil Fumigation Notification, Weed Free Forage Inspection, Export Certificate Application, and Live Plant Inspection Application. The main content area is titled "Pesticide Application Complaint" and includes a breadcrumb trail: Home > Services > Comments and Complaints > Pesticide Application Complaint. Below the title is the section "YOUR CONTACT INFORMATION" with a note: "Required fields are marked by an asterisk (\*).". The form contains the following fields:

- \* First Name:
- \* Last Name:
- \* Street Address:
- \* City:
- \* State:
- \* Zip:
- Email Address:
- \* Telephone:

A format example for the telephone field is provided: "Format example: (913) 555-1212". The Windows taskbar is visible at the bottom of the screen.



... the more facts you provide, the better

complaint-form/pesticide-application-complaint

Pesticide Application Compl...

h - Asso... Kansas Department of Agric... Office 365 Pesticide Inspector Regulator...

Page Safety Tools

### PESTICIDE APPLICATION COMPLAINT

It is important to complete this form within 60 days of discovering damage. K.S.A. 2-2457a.

**Required fields are marked by an asterisk (\*).**

**Date alleged damages/symptoms were discovered:**

**Location of injury or damage(legal description or address)**

**County:**

**Quarter:**  **Section:**  **Township:**  **Range:**

**Address or other description:**

**Owner or lessee of property on which alleged damage occurred:**

**What was injured or damaged?:**

- Human exposure
- Crop
- Garden

175% 8:50 11/17/20

.... and then, click *Submit*

The screenshot shows a web browser window with the URL `es/complaint-form/pesticide-application-complaint`. The page title is "Pesticide Application Compl...". The browser's address bar shows the following tabs: "tion - Asso...", "Kansas Department of Agric...", "Office 365", and "Pesticide Inspector Regulator...". The page content includes a checkbox for "Other", a text area for describing complaint conditions, a section for providing additional information, a radio button for "Do you know/suspect a particular pesticide application was responsible?" (with "No" selected), and input fields for "Applicator Name", "Application Type" (set to "Ground application"), "Application Date" (with a format example of "12/12/2012"), and "Application Time". There is also an "Other:" field with a note: "If you selected OTHER for the application type, please enter a description here." At the bottom, there is a logo for "PK2RTO" and a "Generate New Image" button. The page number "175" is visible in the bottom right corner.

Other

**\* Describe complaint conditions or damage observed:**

Please provide the following information, if known:

**Do you know/suspect a particular pesticide application was responsible?:**  
 No  Yes

**Applicator Name:**

**\* Application Type:**  
Ground application

**Other:**  
If you selected OTHER for the application type, please enter a description here.

**Application Date:**  
Format example: 12/12/2012

**Application Time:**

Information provided may be subject to disclosure under the Kansas Open Records Act K.S.A. 45-215 et seq.

**PK2RTO**  
Generate New Image

175

# Then what?

- An investigator contacts the complainant and evaluates the concern.
- The investigator takes a written damage claim/complaint, and collects evidence from the complainant.
- Samples may analyzed in KDA's pesticide laboratory.
- If a respondent is identified, the investigator issues a Notice of Inspection, provides a copy of the written complaint, interviews the respondent, and collects evidence.
- The investigator explores all potential sources of pesticides, obtains official weather data, and compiles a report.

*"Just the facts, ma'am!"*

# Problems with Investigations

- Anonymous complainant
- Insufficient information
- Long time between application and complaint
- Uncooperative applicator
- No applicator found
- Multiple applicators using same pesticide
- Lab results contradictory or inconclusive
- Weather data contradictory or inconclusive

# Case disposition

- Closed with no further action
- Administrative actions
  - Warning or Summary Order
  - Civil Penalty – settlement conference or hearing
  - Suspend or revoke License or Certification
- Refer to County Attorney for prosecution
- Refer to EPA

Complainant and Respondent receive disposition letter from KDA.  
*Closed cases are available under Open Records Act.*

# Kansas Department of Agriculture

Pesticide & Fertilizer Program

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Manhattan, KS. 66502

(785) 564-6688

[www.agriculture.ks.gov](http://www.agriculture.ks.gov)