PESTICIDE DRIFT

Kansas Department of Agriculture
Pesticide and Fertilizer Program

Joan Ratzlaff, M.S.
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
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.

Pesticides Found in Hives

Pesticides Category Distribution for All Years

# of samples = 763

- **Varroacide**: 42.7% n=853
- **Insecticide**: 21.6% n=432
- **Fungicide**: 20.8% n=416
- **Herbicide**: 11.4% n=228
- **Neonicotinoid**: 2.2% n=44

Bee Informed and USDA National Honey Bee Survey
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

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

User friendly

One place to see where sensitive crops are grown.

Applicators can sign up for email notification of new registrations.
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
Services: Comments and Complaints
Scroll down...
...to Pesticide Application
Fill in this form...
... the more facts you provide, the better
.... and then, click Submit
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.*