PRIORITIZING COMPLAINT RESPONSES – 2020

The Nebraska Pesticide Act (the Act) authorizes the Nebraska Department of Agriculture (NDA) to regulate, in the public interest, the use and application of pesticides for the protection of human health and the environment. The Legislature found that pesticides, while potentially causing detrimental effects if used improperly, were also valuable to the state’s agricultural production and to protect humans and the environment from insects, rodents, weeds, diseases and other forms of life which are classified as pests. Recently, the U.S. Environmental Protection Agency indicated that while some pesticides can cause adverse visual effects in non-target organisms, the agency must weigh the benefits of the pesticide against the risk of harm it could cause, in order to determine whether the adverse effects are considered unreasonable.

The Act authorizes NDA to investigate a report of claims of pesticide misuse or misapplication, if the department has reasonable cause to believe that a violation of the Act has occurred. The Act also provides the department discretion to decline an investigation if the report is made more than 90 days after the person claiming damages knew of the damages, is outside the scope of the Act, or is frivolous or minor in nature under the Act. NDA has established the following priorities for investigating pesticide complaints, in the order presented:

- Direct and verifiable impacts on human health
- Direct and verifiable impacts on endangered species or their habitat
- Direct and verifiable impacts on surface or ground water resources
- Direct and verifiable impacts on commercial agricultural commodities (crops, livestock, etc.)
- Direct and verifiable impacts on private property such as gardens, trees, lawns, or shared space
- Indirect, or questionable adverse effects on the above, in the order presented above

HERBICIDE SYMPTOMS

For suspected herbicide symptoms on plants, NDA will use the following range of visual symptoms when considering whether to respond to claims of off-target movement. No Symptoms, Minor Symptoms, Moderate Symptoms, Severe Symptoms.
**No Symptoms:** Plants have normally shaped leaves, no stem or branch stunting, new leaves emerge and unroll as expected under normal conditions, suspected symptoms are limited to single plants or localized areas on plants.

[Below] Healthy hackberry leaves

[Above] Healthy burr cucumber and choke cherry leaves
Minor Symptoms: Plant leaves show some cupping, leaf tip pinching or distorted growth, but only on newly emerged leaves or on older leaves with new leaves showing no symptoms. Soybeans showing minor leave cupping, slight bumpy/leathery texture or small pinched tips will likely not experience yield reduction so long as all other growth factors remain favorable (soil moisture, insect or disease pressure, nutrition, heat/cold, additional pesticide exposure). Other symptoms might be leaf bleaching or yellowing, uniformly spaced dead spots (shot-hole pattern), stem twisting or tissue discoloration.
**Moderate Symptoms:** Plants show significant leaf cupping, distortion or stunting, but not on all leaves or branches of the plant. Some flowers or seed pods may be aborted if exposure occurred during flower initiation. Yield may be reduced in sensitive crops. Other symptoms could be white or yellow discoloration, leaf drop, "scalping" of one side of tree or bush, or "shepard’s crook" appearance where the ends of branches turn black and become hooked.

Non-dicamba tolerant soybeans with older trifoliate leaves with 50% or more showing leaf cupping and tip pinching and new trifoliate leaves also cupped. Plant was likely in bloom at time of exposure, and yield will likely be affected.

This photo is of non-dicamba tolerant soybeans inter-planted with dicamba tolerant soybeans, allowing for good comparison of the symptoms.

Hackberry with moderate leaf cupping, with many leaf maturity stages affected.

Bradford pear tree with more than 50% of leaves and blooms showing leave and stem curling, obvious leaf tissue death.
**Serious Symptoms:** Plants show serious, irreversible leaf damage, some leaves are dead or are dying. Trees may experience significant leaf drop, stems will twist, curl or swell with lesions. Yield will likely be reduced in sensitive crops.

Grapes with serious phenoxy herbicide symptoms (left) or glyphosate (right). Glyphosate can mimic phenoxy symptoms, but glyphosate will also produce varying degrees of yellow leaf tissue and less marginal leaf cupping.

Obvious plant death caused by contaminated tank mix  
Oak leaves affected by corn herbicides