Chemical Application & Safety

- Licensing Requirements
- Sprayer Calibration

Pesticide Classifications

- General-use
  - Can be purchased and used by the general public. Does not require a license to distribute or use.

- Restricted-use
  - For use only by certified pesticide applicators or persons under their direct supervision. Designation is placed on the product by EPA, and the label will state restricted-use.

- State-limited-use
  - Pesticides containing certain active ingredients, with the potential to cause adverse effects to non-targeted vegetation, are classified as SLU when distributed in containers larger than one quart liquid or 2 pounds dry or solid. Also includes pesticides or devices for predation control.

- Regulated Herbicide
  - Herbicides the department determines, if used as directed or in accordance with widespread and commonly recognized practice, require additional restrictions to prevent a hazard to desirable vegetation caused by drift or an uncontrolled application.

Pesticide Applicator Licensing Regulated by TDA

- Types of Licenses:
  - Private Applicator (5 years; 15 CEUs)
    - For purposes of creating an agricultural commodity on personal property
  - Private Applicator Certificate (permanent; 15 CEUs/5 years)
    - Grandfathered since 1989
  - Commercial Applicator/Non-commercial Applicator (1 year; 5 CEUs)
    - aerial application
    - agriculture
    - aquatic pest control
    - ornamental plant and turf production
    - forestry
    - right-of-way maintenance
    - research
    - regulatory pest control
    - seed treatment, commodity fumigation
    - education and research

- Not for structural pest control (Structural Pest Control Board)
Private Applicator License

- Attend a private applicator training program offered by Texas Cooperative Extension (Extension) or a private entity approved by TDA;
- Pass the TDA private applicator exam
- Purchase a license ($60)
- Required to recertify every five years by obtaining 15 CEUs, including 2 credits in laws and regulations and 2 credits in integrated pest management (IPM), prior to expiration of the license. (May take exam to cover CEUs but cost $50 per attempt)

Pesticide Label

- Dipel DF label handout
  - Organic pesticide; targets lepidopterous insects
  - PPE requirements?
  - REI requirement?
  - PHI (pre-harvest interval)?
  - Rate?

Sprayer Calibration

- Determine Rate (active ingredient or product)
  - What’s the difference?
- Determine volume of water
  - Check label to see if there is a range
    - Most pesticides recommend 20-30 gal/A
- Does pesticide require constant agitation?
  - Are particles suspended (WP) or dissolved (SP)
- Calibrate Sprayer
Sprayer Calibration

- Poor calibration accounts for 90% of control failures
- Refer to handbook; you will need to calibrate backpack sprayer in lab
- Single nozzle backpack sprayer:
  - Determine spray width (nozzle type and height)
  - Determine “calibration distance” from table
  - Measure time needed to walk calibration distance (walk constant speed)
  - Measure volume delivered through sprayer during this amount of time (constant pressure)
  - Ounces of water = gallons per acre

Calibration Example

- Spray width (nozzle spacing) = 20"
- Calibration distance = 204’ (from table)
- Measured time to travel 204’ = 46 seconds
- Measured volume delivered in 46 seconds = 21 fluid ounces
- Gallons of solution applied per acre = 21
- So, if recommend rate is 1 lb/A, you need 1 lb/21 gal of spray for each acre
- For a 4 gal backpack sprayer:
  1/21=0.0476*4=0.19 lbs per 4 gal tank
- Each 4 gal sprayer will cover 4/21=0.19 acres