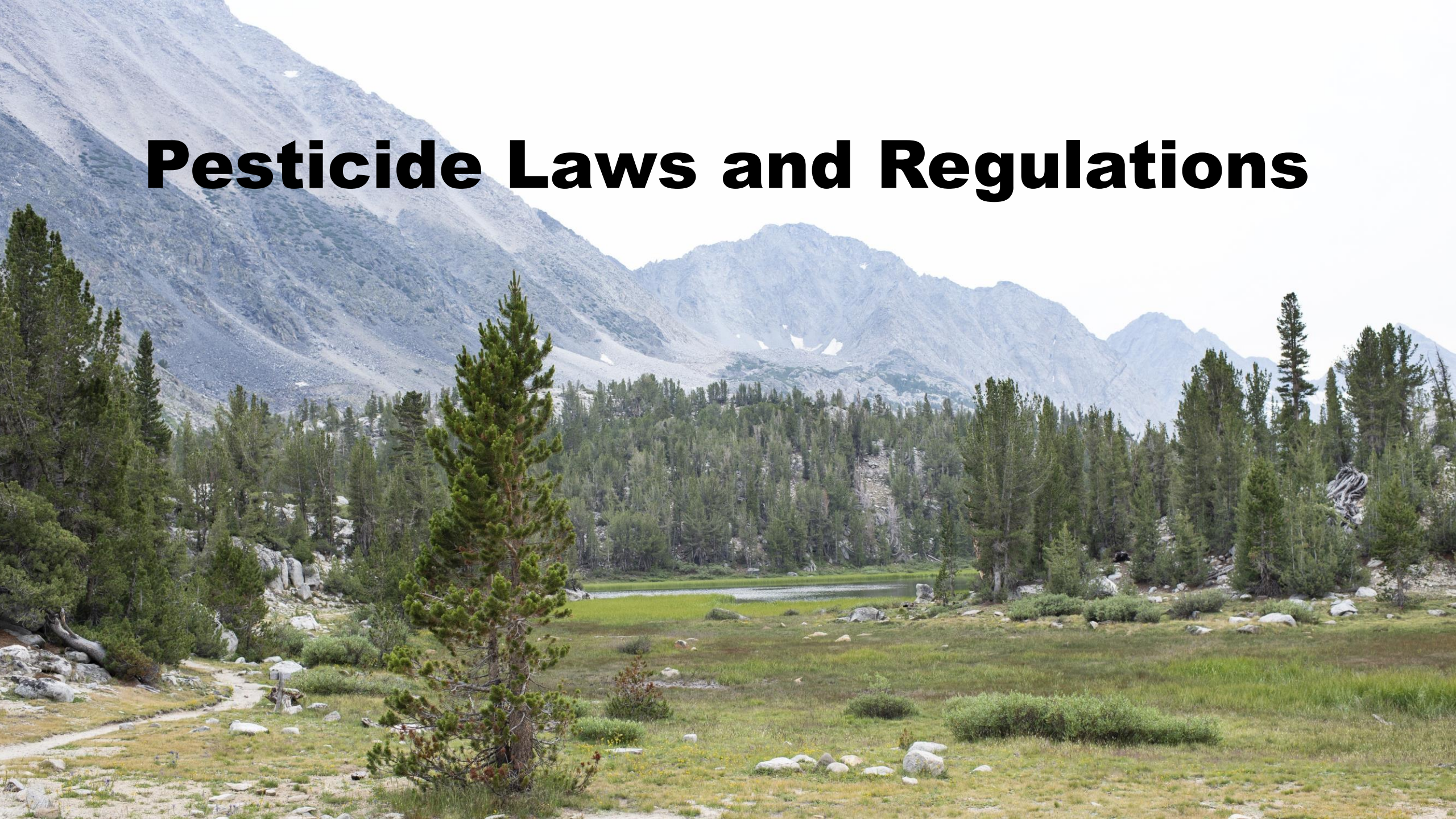
Pesticide Laws and Regulations

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THe ENTRANCE EXAM
CRITICAL THINKERS BOOKS
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10-11
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20 MULE TEAM BORAX™

Solubor®

Sodium Borate 20.5% B

OMRI™ Listed — Organic Materials Review Institute

REGISTERED ORGANIC INPUT MATERIAL — OMIA

Soluble borate for fluid fertilizers and nutrient sprays

Disodium Octaborate Tetrahydrate

$Na_2B_8O_{13} \cdot 4H_2O$

CAS No. 12280-03-4

GUARANTEED ANALYSIS:

Boron (B)*. 20.5%

*Derived from sodium borate.
4.9 lbs. of *Solubor* 20.5%B
provides 1 lb. of boron (B).

Directions for use: *Solubor*® 20.5% B is a soluble boron fertilizer for application to plant foliage or soil as a liquid spray. Use only on the basis of soil and or tissue analysis, and on the recommendations of county agricultural authority. Recommended rates vary with timing, placement and methods of application. **Applications above recommended rates may cause injury to sensitive crops. Use only as directed.**

CAUTION: This plant nutrient contains boron and should be used only as recommended. It may prove harmful when misused. Use of boron on any crops other than those recommended may result in serious injury to the crop(s). Excessive amounts may cause damage to susceptible crops. For additional information and crop recommendations, call (800) 699 9005 (8:00a.m. - 4:00p.m. CST, Mon-Fri).

Information regarding the contents and levels of metals in this product is available on the Internet at http://www.aapfco.org/metals.htm (once entering the State site, select U S Borax Inc as the registrant or firm).

SODIUM BORATE

CAUTION:
- KEEP OUT OF REACH OF CHILDREN.
- Do not ingest.
- Ingestion may cause reproductive harm or birth defects based on animal data.
- Avoid contamination of food, drink and animal feed.
- Not for use in food, drug, or pesticides.
- **READ (MATERIAL) SAFETY DATA SHEET BEFORE USING PRODUCT. USE ONLY AS DIRECTED.**

PRECAUCIÓN:
- MANTENER FUERA DEL ALCANCE DE LOS NIÑOS.
- No ingerir.
- La ingestión puede provocar daño reproductivo o defectos de nacimiento según los datos en animales.
- Evitar la contaminación de alimentos, bebidas y alimentos de animales.
- No se debe utilizar en comidas, medicaciones o pesticidas.
- **LEER LA HOJA DE DATOS DE SEGURIDAD (MATERIAL) ANTES DE USAR EL PRODUCTO. USAR SÓLO SEGÚN SE RECOMIENDA.**

Manufactured and Supplied by
U.S. Borax Inc.
14486 Borax Road
Boron, CA 93516-2000, USA
☎ (1) 760 762 7000
www.borax.com/agriculture

Emergency Phone Number
U.S. toll-free (24 Hr)
☎ (1) 866 786 3439
Non toll-free (24 Hr)
☎ (1) 303 713 5050

Manufactured under management systems compliant with ISO 9001 and ISO 14001

State sample
11D.6

Overview of the U.S. EPA Worker Protection Standard – 2018 Updates

Marty Gmelin
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Stanislaus National Forest

David Bakke
Pacific Southwest Region Pesticide-Use Specialist

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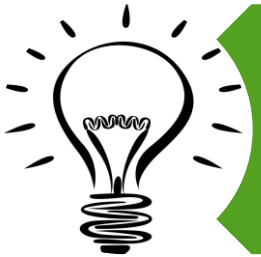
Disclaimer

- This presentation is an overview of topics associated with the Worker Protection Standard (WPS), focusing on requirements put in place Jan 2018
- This presentation has not been approved by US EPA as WPS training material for either pesticide handlers or ag workers.

The Principles of the Worker Protection Standard



Inform

- about pesticide safety

Protect

- from potential pesticide exposure

Mitigate

- pesticide exposures when they do occur

Goals of the Worker Protection Standards (WPS)

- Improve occupational protections
- Reduce acute occupational pesticide exposures and incidents
- Protect agricultural workers from the harmful effects of pesticides and their residues
- Covers agricultural workers and pesticide handlers who are employed on any farm, forestry operation or nursery engaged in the outdoor or enclosed space production of agricultural plants

How does WPS Apply to Forestry Workers

- Forest workers applying or inspecting applications: “Pesticide Handlers”
- Anyone that might be in the area or within ¼ mile of an application needs to be trained: “Ag Workers”
- If applying in a campground, Wilderness, rights-of-ways or other administrative sites: not considered an “Agriculture Site”
- Borax or Cellu-treat application after timber harvest: not considered an “Agriculture application”

When Does the WPS Apply?

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material such as polyvinyl chloride, nitrile rubber or butyl rubber
- Shoes plus socks

- Use of a WPS-labeled pesticide product on an "agricultural establishment" directly related to the production of an "agricultural plant"
- Employment of workers or handlers
- There are some pesticide uses that are considered "non-agricultural uses" that are not covered under this standard

2018 Updates to Rules Meant to **Inform**

- Revised Annual pesticide safety training
- Updated trainer requirements and training materials
- Additional posted pesticide safety information
- Access to pesticide application records for employees and medical personnel
- Pesticide application notification requirements

Pesticide Safety Training

- Annual training is required
- Training must be provided to a
  - Worker before starting work in a treated area
  - Handler before performing any handling task
- A worker or handler can ask for a record of the training
- Records must be kept for two years and in a central location and be available to employee

EPA-Approved Training Materials

- http://pesticideresources.org/wps/inventory.html
- Recommended - Agricultural Worker and Handler Pesticide Safety Training, identified as PST 00022
- Also a video of the same powerpoint - runs 38 minutes

Who can train

- CA Department of Pesticide Regulation
  - Ag Pest Control Advisor (PCA)
  - Qualified Applicator (QAC or QAL)
- CA Registered Professional Forester (RPF)
- EPA or UC trained trainer

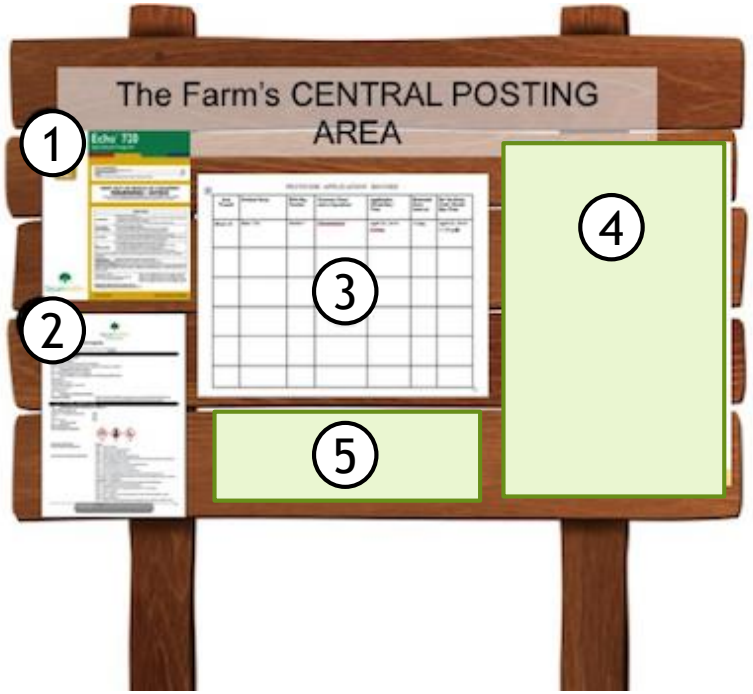
Central Posting of Information

Hazard Information: Include Pesticide label(s), Safety Data Sheet(s), and EPA WPS poster

Pesticide Application Information: pesticide applied & EPA registration #, location and description of site treated, start and end of application, Restricted Entry Period

CA DPR Pesticide Safety Information Series (PSIS) A-8 & A-9 (filled in with medical location and location of training files)

Contact information: Administrator or Inspector of project(s)



1. Hazard Information: Pesticide label(s)
2. Hazard Information: Safety data Sheet(s)
3. Application Information: Location of site, start and stop dates, Restricted Entry Interval (REI)
4. CA DPR Pesticide Safety Information Series (PSIS) A-8 & A-9,

   EPA WPS poster
5. Contact information

2018 Updates to Rules Meant to **Protect**

Minimum Age of 18 for pesticide handler or early-entry workers

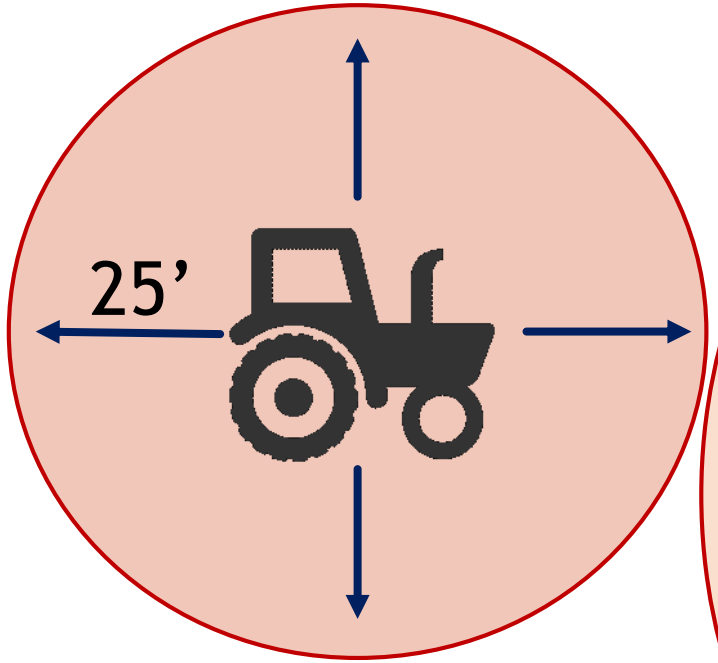
Application Exclusion Zone (AEZ)

- Employer must keep workers out of AEZ
- Handler must not apply when non-handlers are within AEZ

Instruction for early-entry workers

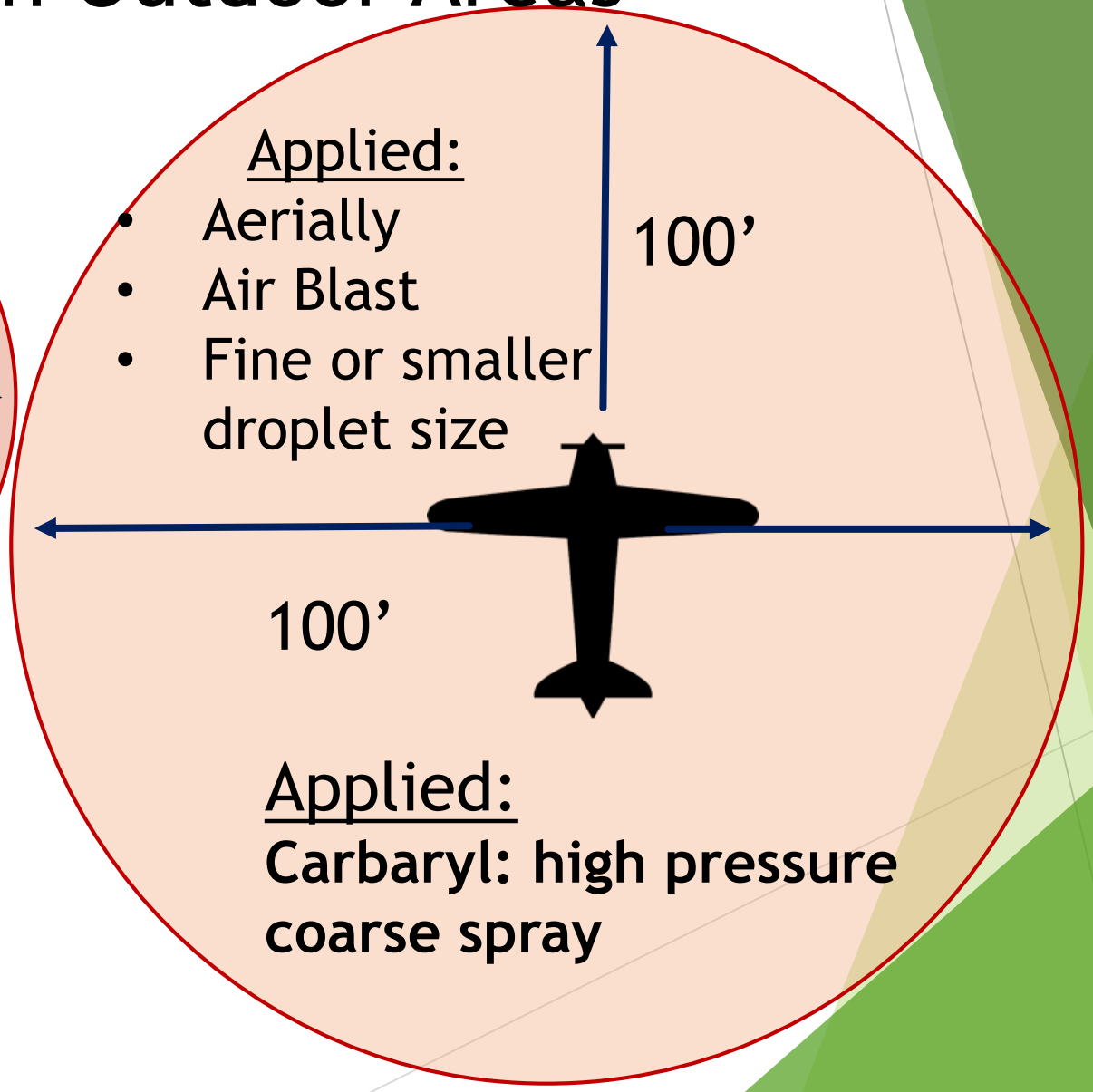
Strengthened respiratory protection rules

AEZ in Outdoor Areas



<u>Applied:</u>

- Medium or larger droplet size
- > 12” off target



<u>Applied:</u>

- Aerially
- Air Blast
- Fine or smaller droplet size

<u>Applied:</u>

Carbaryl: high pressure coarse spray

Application Exclusion Zone in Outdoor Production

When the application is concluded, the AEZ no longer exists.

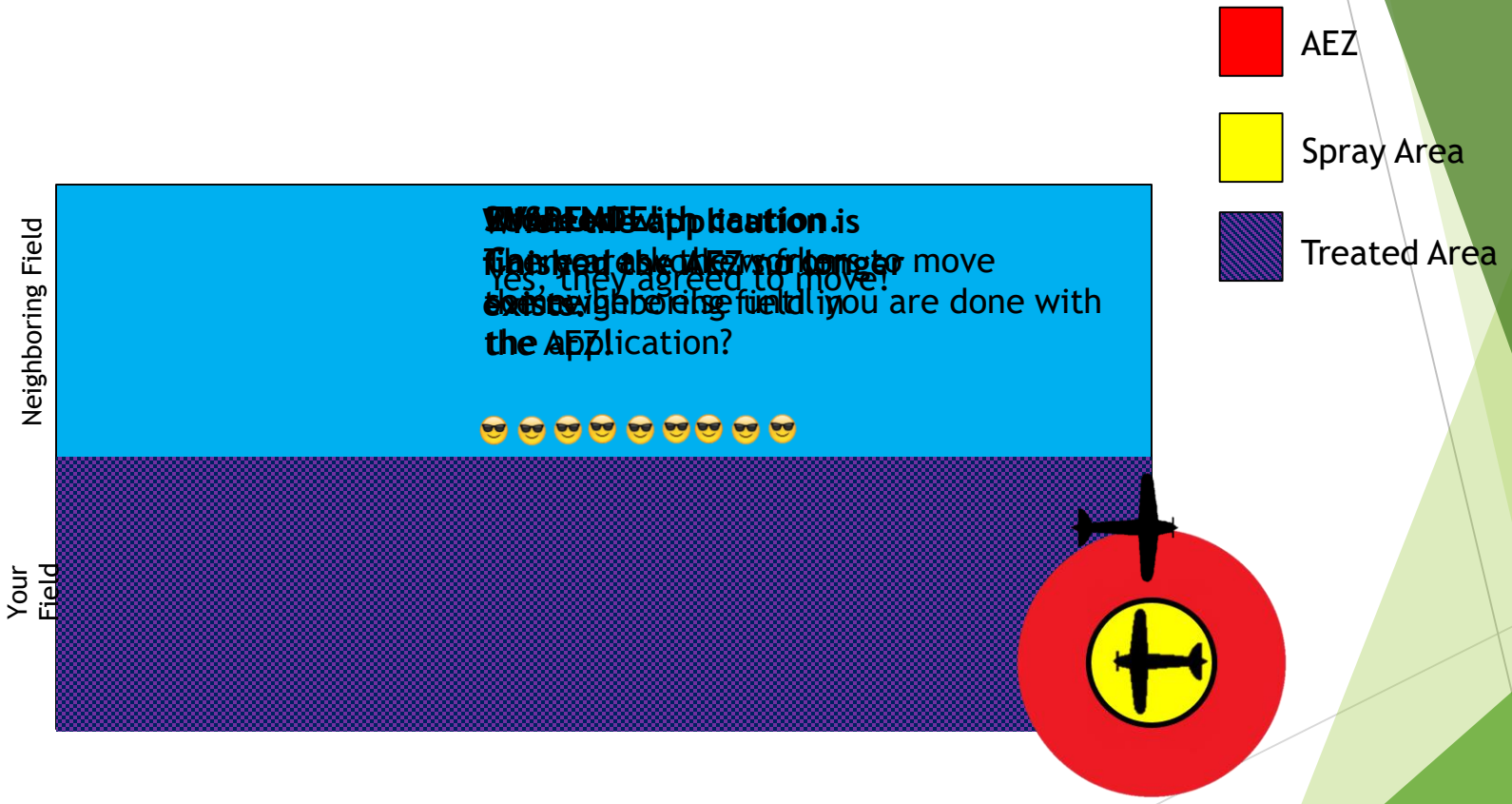
Field AEZ Spray Area Treated Area

AEZs on Field Borders

🟥 AEZ

🟨 Spray Area

▨ Treated Area



WARNING!

There are workers in the neighboring field in the AEZ!

[illegible] with caution.

Can we ask the workers to move somewhere else until you are done with the application?

Yes, they agreed to move!

AWESOME!

When the application is finished the AEZ no longer exists.

😎 😎 😎 😎 😎 😎 😎 😎 😎

2018 Updates to Rules Meant to **Mitigate**

- **Requirements for decontamination supplies**
  - Water specifications for Workers, Early-Entry Workers, and Handlers
  - Eye flush specifications for mix/loaders and applicators

- **Information for medical personnel** in the case of pesticide exposure

Decontamination Supplies for Pesticide Handlers

- Water: at least 3 gallons/handler at beginning of shift
- Soap and Single use towels
- Clean change of clothes to be used in case the handler's clothes or PPE become contaminated

Decontamination supplies must be located within ¼ mile of the pesticide handler or at the nearest vehicular access, at mixing and loading site, and at the site where PPE is removed

Decontamination Supplies for Pesticide Handlers

- Emergency eye flushing station at mixing/loading sites
- Required when:
  - label requires protective eyewear
  - using a closed system that is under pressure
- Handlers using products that require protective eyewear must be provided a pint of water in a portable container

Decontamination Supplies for Ag Workers

- If REI is > 4 hours, required when workers enter or come into contact with treated surfaces within 30 days after application
- If REI is ≤ 4 hours, required for at least 7 days after application
- Water
- Soap and single use towels

In Review: The Goal of WPS

1. Inform

2. Protect

3. Mitigate

Resources

- EPA Website: How to Comply with WPA Standards

  https://www.epa.gov/pesticide-worker-safety/pesticide-worker-protection-standard-how-comply-manual

- EPA Website: Worker Protection Standards

  https://www.epa.gov/pesticide-worker-safety

- CA Dept. of Pesticide Regulation: WPS changes

  http://www.cdpr.ca.gov/docs/whs/whs_regulations.htm

- CA Dept. of Pesticide Regulation: Pesticides and Human Health Info

  http://www.cdpr.ca.gov/docs/dept/quicklinks/humanhea.htm

- Other Training Resources

  http://pesticideresources.org/index.html

- Safety Supplies

  https://www.gemplers.com/

Questions?

- David Bakke, dbakke@fs.fed.us, 707-562-8916
- Marty Gmelin, mgmelin@fs.fed.us, 209-288-6287

Regulations on Pesticides Near Schools

CCR Title 3, Sections 6690-6692

Effective January 2018

David Bakke
Pacific Southwest Region Pesticide-Use Specialist

Objectives of Regulations

- Extra margin of safety near schools and day-care centers
- Increase communication
- Application restrictions

Do These Regs Apply to You?

- Public schools (K-12) or licensed child day care centers within ¼ mile
- Adjacent parks used by schools
- Agricultural application of pesticides

Buffers

- Depends on application type (aerial, ground)
- Depends on pesticide type (fumigant, dust, granules, liquid, etc.)
- Applies Monday-Friday, 6 am to 6 pm
- Range from zero to 1,320 feet

Annual Notification

- From grower to schoolsite and CAC by April 30th, in writing and including:
  - Maps
  - Contact Info
  - National Pesticide Info Center website
  - Pesticides to be used July-June
- Grower retains notifications for 2 years

Resources

- www.cdpr.ca.gov/schoolnotify
- CalAgPermits questions: help@calagpermits.org

HERBICIDE USE
THE MATH BEHIND THE APPLICATION

Marty Gmelin
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David Bakke
Pacific Southwest Region Pesticide-Use Specialist

Objectives

- Calibration, what and how
- Math of Mixing with a few examples

Why Calibrate?

- Effective Pest Control
- Equipment is operating as expected
- Protecting human health, the environment and treated surfaces
- Preventing waste of resources
- Complying with the law!!!!

Calibration assures that you are applying the correct amount of pesticide to an area

The Low Math Method of Calibrating

Simple equipment is needed!

- 2 people
- Backpack sprayer
- Measuring tape
- Accurate measuring container (fluid ounces)
- Stopwatch
- Water
- Brain

1. Use a surface similar to treatment area
2. Measure out a square that is 18.5 ft. x 18.5 ft.
3. Fill backpack with water
4. Record the time it takes to spray area
   - constant pressure
   - nozzle at right height
   - right coverage

5. Using same pressure, spray into the measuring container for the recorded time
6. Record the ounces in the container
7. Repeat the entire process two more times and average the values for the sprayer

8. **The average number of ounces in the container equals the gallons per acre (GPA) output of the backpack!**
9. Repeat this with each backpack being used and each applicator (making sure that nozzle and pressure setups are the same between all backpacks.
10. Record the calibrated amount on each backpack sprayer.

If this rate is too low or high, consider changing nozzles.

The conversion of 30 ounces to 30 gallons per acre:

- 30 fl. oz./0.007857 acres x 1 gal/128 fl. oz. = 29.83 ≈ 30 gal/acre

How Much Pesticide Is Needed for the Proper Rate?

Determine the application rate from the pesticide(s) label

Example: Prescription is to apply:

- 1 quart per acre (from label for target pest on the treated site)
- With a 30 GPA calibrated sprayer
- Spray tank holds 3 gallons

The formula:

$$\frac{\text{spray tank size (gallons)}}{\text{GPA}} \times \text{pesticide rate per acre} = \text{amount of pesticide required in sprayer}$$

3 gallon tank/30 GPA x 1 quart/acre = 0.1 quarts/tank

Because most measuring containers use fl. oz., need to convert this number into fl. oz. by multiplying by 32 fl. oz. in a quart:

0.1 quarts x 32 oz/quart = 3.2 ounces/tank

Calculations for Dry Formulations

- Do not confuse ounces of weight with fluid ounces, **they are not the same** (there is no standard conversion between weight and volume unless you know the density of the ingredient)
- **Use a scale or supplied measuring device**
- **Dry measuring cups** are meant to be filled to the brim so you can sweep off the excess

Calculations for Dry Formulations

Prescription is to apply Telar XP (dry flowable herbicide) on 1 acre:

- 1 ounce per acre (from label for target pest on the treated site)
- Apply 30 gallons per acre to control heavy infestation of whitetop
- 30 GPA Calibrated Sprayer
- Spray tank holds 3 gallons

- 3 gallon tank/30 GPA x 1 ounce/acre = 0.1 ounces/tank
- Use measuring guide or portable scale to accurately measure needed amount

Mixing more than one pesticide

Prescription is a tankmix of:

- 3 quarts per acre of Accord XRT II (4 pounds per gallon (ae) glyphosate)
- 1 quart per acre of Garlon 4 Ultra (4 pounds per gallon (ae) triclopyr)

You have a 4-gallon backpack calibrated to 35 gal/acre

How much herbicide to add to a tank?

Accord® XRT II
HERBICIDE

Garlon®
4 Ultra
SPECIALTY HERBICIDE

Mixing more than one pesticide

Ounces of herbicide per gallon of spray solution

Accord XRT II

32 ounces/quart x 3 quarts Accord XRT II/acre = 96 ounces of Accord XRT II/acre

96 ounces/acre ÷ 35 gallons/acre = 2.7 fl. oz. Accord XRT/gallon of mix

Garlon 4 Ultra

32 ounces/quart x 1 quart Garlon 4 Ultra/acre = 32 ounces of Garlon 4 Ultra per acre

32 ounces/acre ÷ 35 gallons/acre = 0.9 fl. oz. Garlon 4 Ultra/gallon mix

Mixing more than one pesticide

Procedure

<u>4 gallon backpack sprayer</u>

- 2.7 ounces/gal x 4 gal = 10.8 ounces Accord XRT II per backpack
- 0.9 ounces/gal x 4 gal = 3.6 ounces of Garlon 4 Ultra per backpack

<u>200 gallon batch tank</u>

- 2.7 ounces/gal x 200 gallons = 540 ounces Accord XRT= 4.2 gallons per batch tank
- 0.9 ounces x 200 gallons = 180 ounces Garlon 4 Ultra = 1.4 gallons per batch tank

Questions?

- David Bakke, dbakke@fs.fed.us, 707-562-8916
- Marty Gmelin, mgmelin@fs.fed.us, 209-288-6287