## OKLAHOMA COOPERATIVE EXTENSION SERVICE

# PESTICIDE REPORTS

Division of Agricultural Sciences and Natural Resources • Oklahoma State University http://pested.okstate.edu



## May, 2013

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## CHEM

## **OSU PSEP TEST HELP SESSION**

The OSU Pesticide Safety Education Program will conduct the next test help session for 2013 in May. The next test help will be at the Tulsa County Extension Center on May 30<sup>th</sup>.

This testing session will focus on information covered in the core/service tech test. OSU PSEP will answer any questions over other category tests during this session.

Cost of registration is \$30 if received by May 23<sup>rd</sup>. Registration will increase to \$50 after May 23<sup>rd</sup>. **ODAFF Testing fees are not included in the registration fee and must be paid separately**.

Register online at the Pesticide Safety Education Program (PSEP) website at <u>http://pested.okstate.edu/practical.htm</u>. Registration forms can also be downloaded from the website.

Registration will start at 8:45 and the program will run from 9:00 am to 12:30 pm. Testing will begin at 1:30 pm.

The next test help sessions will be October 17 in Tulsa and October 23 in OKC.

#### NO CEU's will be given for this program!

## **ENDANGERED SPECIES 'MEGA-SUIT' DISMISSED**

On April 22, Magistrate Judge Joseph Spero of the U.S. District Court Northern District of California dismissed the Center for Biological Diversity and Pesticide Action Network North America v. Environmental Protection Agency (EPA), Endangered Species Act "Mega-Suit." [Click here to read the court document.]

The court's decision has significant implications for the pest control industry, as this litigation involves more than 380 registered pesticides in the United States — including almost all rodenticides and termiticides.

"You would be hard-pressed to think of anything that could have happened to this industry that would have been more disruptive than if they had prevailed in that lawsuit," said NPMA Executive Vice President Bob Rosenberg.

The "Mega-Suit" was filed in 2011 by the Center for Biological Diversity and Pesticide Action Network, which alleged that EPA had failed to take steps required by the Endangered Species Act (ESA) to protect more than 200 endangered species located in every state and territory in the United States, excepting Alaska, American Samoa, Guam and the Northern Marianas Islands.

In dismissing the suit, Judge Spero noted that the plaintiff failed to provide the minimum required information to support its claim that EPA did not meet its statutory obligations to consult with the U.S. Fish and Wildlife Service on certain pesticide decisions. The court stated, "Plaintiffs have not even pled the 'general factual allegations' giving rise to each individual ESA claim, nor have they asserted individual ESA claims."

Rosenberg said the judge's ruling affirms NPMA's belief that, "EPA has for a very long time done a good job conducting ecological risk assessment and determining whether the products and their use have the potential to impact even non-target species that aren't endangered — and certainly endangered species. At worse, what was happening was EPA maybe wasn't talking as much as they ought to with the U.S. Fish and Wildlife Services and National Marine Fisheries. But that's not to say they weren't taking into account their impact on endangered species."

Additional grounds for Spero's dismissal of the lawsuit included that the plaintiffs lacked standing; were too vague; and that appellate courts are the appropriate venue for many of the counts.

Judge Spero has allowed 30 day for the plaintiffs to file an amended lawsuit. Center for Biological Diversity and Pesticide Action Network North America also have 60 days to appeal the decision.

(PCT Online April 30, 2013) http://www.pctonline.com/ESA-mega-suitdismissed.aspx

## EIGHT KEYS TO MANAGING SPRAY DRIFT

If you ask any custom applicator what their top five concerns are when doing their jobs, chances are managing spray drift will be mentioned. The consequences of this are potentially severe, with regulatory fines and/or customer damage claims easily costing several thousands of dollars (if not more).

In fact, according to Bruce Senst, director of Agrisolutions adjuvants for WinField Solutions, Shoreview, MN, the potential for spray drift keeps many segments of the agricultural community awake at night. "There are plenty of things that worry your average grower or ag retailer," says Senst. "But when it comes right down to it, everyone is concerned as all get out about spray drift and its impact on their livelihood."

Complicating the spray drift issue in recent years is the increasing spread of herbicide-resistant weeds. Based upon the best estimates, approximately 60 million acres of U.S. farmland were infested with herbicide-resistant weeds in 2012, with portions of the Mid-South region particularly hard hit. This has increased the likelihood that applicators will need to use several different crop protection products than they did in previous years.

"Let's face it — we are coming out of an era where you could use one product technology, glyphosate, to manage most of your application needs," says Damon Palmer, U.S. commercial leader for the Enlist Weed Control System at Dow AgroSciences, Indianapolis, IN. "But now, to achieve this same level of control, applicators are having to mix other crop protection products into their programs, and that has sparked a lot of questions about how do you manage spray drift when you are using multiple herbicides?"

Furthermore, several crop protection manufacturers such as Dow AgroSciences and Monsanto Co., St. Louis, MO, are readying new herbicide-resistant cropping systems for the marketplace in the coming years. This has the potential to see increased application usage for products such as 2,4-D and dicamba, which in turn, will increase the pressure on applicators to more accurately manage spray drift.

#### **Best Equipment Practices**

With these factors in mind, *CropLife*® magazine spoke with Dr. Robert Wolf, Wolf Consulting & Research, LLC, Mahomet, IL. The past few years, Wolf has spent much of his time conducting the On Target Application Academy (with cooperation from TeeJet Technologies and BASF).

"In my training, I have a list of drift management strategies that I work from," says Wolf. "I probably trained nearly 3,000-plus applicators in 2012." In essence, he adds, there are eight best management practices applicators should follow to manage spray drift.

**No. 1: Nozzle Selection.** "This is the strategy that has been used for years to reduce spray drift," says Wolf. "However, with today's nozzle options, there are many more choices from multiple nozzle manufacturers that applicators have. The challenge is how best to set the sprayer parameters basically speed and pressure — so that while minimizing drift crop protection efficacy is not sacrificed. In recent years, that has been an issue."

Michelle Vigna, assistant launch manager, Roundup Ready Xtend System for Monsanto, agrees that nozzle selection is one of the keys to preventing spray drift. "Here at Monsanto as we introduce the Roundup Ready Xtend system, we are focusing a lot of attention on proper nozzle selection," says Vigna. "For our users to achieve the best on-target application, we recommend they use air induction nozzles."

**No. 2: Use lower pressures.** This is another widely held method for managing spray drift. However, according to Wolf, this practice might require some adjustment to be effective in today's application world.

"Forever, the advice to applicators for reducing spray drift was to 'use a lower pressure,' which result in larger droplets," he says. "This was the No. 1 educational point for drift minimization."

Some of these recommendations have changed, however, as nozzle technology has improved. "Now we have nozzles designed to reduce drift while at the same time doing so at higher pressure," says Wolf. "The higher pressure is needed to help produce a smaller droplet size increasing the coverage potential on the targeted pest — typically a herbicide on a weed. This fact was not really known when the designs were first introduced."

As Wolf explains, the design of drift reducing nozzles is to create a pressure drop and, in some cases, introduce air via a Venturi into the mix. Both of these will produce larger droplets.

"When using a drift reducing nozzle at a low pressure, i.e., 30 to 40 psi, it is quite possible, because of the design, that the outlet pressure has been reduced in a ratio of 3:1 or 4:1," says Wolf. "This can result in an exit psi of 10 to 20 psi. That is too low to maintain a quality pattern or to create droplets for adequate coverage. Thus, the recommendation is to use these Venturi designs commonly referred to air induction — at pressures ranging from 50 to 80 or higher psi. Even at that high pressure, the amount of drift is less than previous designs at lower pressures."

**No. 3: Increasing flow rates.** This is been done by applicators to achieve higher application volumes. According to Wolf, this has been a common practice to reduce spray drift for years. "In general, bigger orifices produce larger droplets," he says.

However, geography can impact how this practice plays out to manage drift for some applicators. "My years in Kansas provide a different perspective on this issue," says Wolf. "For the most part, applicators in the Plains states tend to use less water in the spray mix. This is probably a result of the environment . . . less water available for most all things in agriculture and wanting to spray more acres on a tank load of mix. The problem is that when using less water, a smaller-sized nozzle is needed, resulting in smaller, more drift-prone spray droplets. Combine that with modern sprayers capable of higher application speeds — translated to higher pressures — and more drift is possible."

**No. 4: Lower the boom height.** Again, cautions Wolf, what applicators have traditionally done in this area may not still be the best way to manage spray drift. "Today, some applicators do not understand that the height of the boom above the target is based on nozzle spacing and overlap requirements to achieve a uniform application across the boom," he says. "The 'rule of thumb' for boom height in the industry is 1:1. That would mean a 20-inch nozzle spacing would require a 20-inch boom height above the target, either the soil in a pre-emergence application or the weed or crop canopy in a foliar scenario."

Instead, Wolf recommends applicators get their boom heights down to 24 inches. "In my opinion, that will go a long way toward reducing drift," he says. "I have a slogan for this — lowering the boom on spray drift."

#### Other Considerations

**No. 5: Watch application speeds.** "Most all applicators are using electronics to apply crop protection products," he points out. "The purpose of

a rate controller is to make the application volume uniform. What most do not realize is the speed change will also affect the spray pressure. Higher speeds require higher pressure to deliver the correct volume; lower speeds the opposite. Thus, as applicators are making speed changes, they are impacting the droplet size."

In his training exercises, Wolf cites this example to illustrate this point: An applicator has set the sprayer up to use a #4 nozzle going 12 mph at 40 psi to deliver 10 gallons per acre. A storm is brewing in the West, so the applicator decides to speed up to 15 mph. A 3 mph speed increase will require the pressure to increase to over 60 psi in order to deliver the same volume through the #4 nozzle. As the storm gets closer, they speed up a second time to 18 mph. Now the pressure will need to be 90 psi to deliver the same volume, which obviously increases the potential for spray drift to occur.

"My educational point is to drive at the speed you calibrated for," he says. "Also, the rule applicators should remember is that to double the flow from a given orifice size, they will need to increase the pressure four-fold. As an example: If the applicator is going 8 mph at 30 psi and changes to 16 mph, this will cause the pressure to increase to 120 psi."

#### No. 6: Avoid adverse weather conditions.

According to Wolf, these would include high winds, calm air or inversions. "This is an area that applicators have no control over," he says. "But the best option is still to choose not to spray when environmental conditions are not favorable."

**No. 7: Use buffer zones.** As Wolf points out, the increase in different herbicides, coupled with label requirements, in the near future will make these more important for applicators to achieve proper on-target work. However, size could be an issue.

"The size of the buffer zone will be the problem," he says. "The concern today is that ground applicators might not consider not spraying next to a sensitive area by leaving a buffer zone. Instead, they might choose to come back on a day when the wind is blowing away from the sensitivity to spray." No. 8: Consider other technologies to reduce drift potential. According to Wolf, this could include the use of shields, air-assist or pulse-width modulation or drift reduction additives such as adjuvants.

In summation, Wolf reminds applicators that all of these practices are good at reducing the potential for spray drift, but only if they aren't chosen selectively. "A good drift management plan will include multiple strategies," he concludes. "One item from this list will not be sufficient alone. One practice alone does not make for a good plan."

(CropLife May 1, 2013) http://www.croplife.com/article/33786/eight-keysto-managing-spray-drift

## BILL SEEKS REVERSAL OF EPA SULFURYL FLUORIDE FOOD BAN

Abipartisan group of 15 members of the U.S. House has introduced legislation that would reverse the EPA's 2011 proposed revocation of all food tolerances for the fumigant sulfuryl fluoride (SF).

SF is used to kill pests in food and storage facilities. In a statement the lead sponsor of the bill, Rep. Tom Graves (R-GA), said the revocation would create a potential crisis for food safety throughout the United States. Graves said the EPA action is "based on emotion, instead of scientific facts," and "has the potential to send American jobs overseas." Their bill, HR 1496, would direct the EPA administrator to withdraw the proposed revocation order, and has been referred to the House Committee on Energy and Commerce. It's supported by the Sulfuryl Fluoride Agricultural Coalition, which includes the American Farm Bureau Federation and other grower groups as well as processed food trade groups and the pesticide's registrant, Dow AgroSciences, which markets it for food uses as ProFume.

EPA published its proposal to revoke tolerances for SF in the Jan 19, 2011 *Federal Register*. The decision was in response to a 2005 petition by two environmental groups, Fluoride Action Network and Beyond Pesticides, and took into account a 2006 report by the National Research Council on fluoride exposure.

The agency determined that incremental exposure to the chemical was among several "major identifiable subgroups" contributing to aggregate exposure to fluoride, and that tolerances for the chemical no longer meet the safety standard under section 408 of the Federal Food Drug and Cosmetic Act -- even though, as the agency wrote in the notice, "[F]luoride exposure that occurs as a result of sulfuryl fluoride use accounts for a relatively small portion of overall aggregate exposure (approximately 3 to 4 percent of total fluoride exposure)."

EPA provided for a phase-out period so industry could transition to other fumigants, and took additional comment in 2012 on questions raised during the 2011 notice comment period, such as whether the agency's authority under other statutes than FFDCA should be considered, and whether the fluoride exposure from pesticides should be ruled *de minimis* in that the SF prohibition would remove a negligible amount of the chemical from the environment, but could have a major impact on pest control.

In the press release, the bill's sponsors note EPA endorsed the use of SF as a replacement for methyl bromide, which is being phased out as an ozone depleter under the Montreal Protocol, and in 2002 presented the manufacturer of SF with the 2002 Stratospheric Ozone Protection Award for developing SF and bringing it to market. The release reads, "If finalized, the withdrawal order will leave food production and pest management sectors without a broad-spectrum fumigant -- and few viable pest control alternatives."

Ellen Connett, who is pesticides director of the Fluoride Action Network, contends SF is an "extraordinarily toxic fumigant" that produces "exceptionally high" fluoride residues when added to food. She agrees that wasn't the reason EPA revoked its tolerances, but contends EPA had agreed in its 2011 proposal with their assessment of the chemical as a toxicant. "I hope, for goodness sake, they don't cut EPA off at the knees for doing this. They did the right thing, and they should be supported," she tells *Pesticide & Chemical Policy*. "I hope this legislation doesn't go anywhere."

Dow AgroSciences spokesman Garry Hamlin notes non-food sulfuryl fluoride uses -- for instance, as a termiticide -- would be unaffected by the revocation of food tolerances. In an email he tells P&CP, "By 2015, it appears that the availability of methyl bromide critical use exemptions will be largely phased out in the U.S., leaving mills and other stored food industries with essentially no viable treatments for keeping insect parts and frass [excreta] out of food. (Phosgene corrodes equipment; heat treatment is not validated and is considered unreliable in large, older structures.) The recently introduced legislation in the House...is a function of mounting concerns within the food value chain as methyl bromide becomes less available about the lack of viable alternatives if sulfuryl fluoride were to become unavailable for fumigating stored food commodities."

(Pesticide & Chemical Policy, April 19, 2013 Volume: 41 Issue: 17)

## EPA APPROVAL OF 10,000 PESTICIDES QUESTIONED

The National Resources Defense Council (NRDC) is now accusing the EPA of allowing permanent registration of more than 10,000 pesticides through a loophole designed to allow conditional approval pending more rigorous review.

In a paper NRDC released late last week the NGO says it "has determined that the government has allowed the majority of pesticides onto the market without a public and transparent process and in some cases, without a full set of toxicity tests, using a loophole called a conditional registration. .. as many as 65% of more than 16,000 pesticides" have been approved conditionally.

The environmental group says that, in the instance of clothianidin, one of three neonicotinoids targeted by European regulators to be partially banned, the pesticide "was approved (in 2003) based on a poorly conducted bee field test" that was submitted by Bayer CropScience three years after the conditional registration.

NRDC finds fault with the methodology Bayer used to count dead bees. NRDC also finds fault with Bayer's test, claiming the field treated with clothianidin was too close to the control field and that the pesticide drifted, elevating the count of dead bees so that both fields appeared to have nearly the same mortality rates.

EPA was not provided raw data so that it could not analyze results to determine their validity, and the conditional registration was made permanent in April 2010, says NRDC. "A November 2010 EPA memo determined that Bayer's field study was deficient, but clothianidin remains fully registered today," NRDC claims.

NRDC is asking the EPA to:

- Review conditionally registered pesticides and bring them in compliance with the Federal Insecticide Fungicide Rodenticide Act;
- Cancel immediately registered pesticides with overdue, or insufficient studies;
- Document conditional registrations. According to NRDC, EPA has not documented conditional registrations and cannot provide an accounting of them; and
- Make data on pesticide tests available to the public and open them to public comment.

(Pesticide & Chemical Policy, April 5, 2013 Volume: 41 Issue: 15)

## NEONICOTINOID RESTRICTIONS COULD HAVE RIPPLE EFFECT

The European Commission's decision to more tightly restrict use of three neonicotinoids by prohibiting their use on crops that attract honey bees in the spring could result in pressure on the EPA to consider more assertive mitigation measures.

The European restrictions would bar the use of clothianidin, thiamethoxam and imidacloprid on crops that attract honey bees, corn being by far the largest, during pollination season.

While the restrictions are being termed a "ban," the regulations are really a restriction, says Eric Mussen, apiculturalist, University of California/Davis Agriculture Extension.

EPA would be well within their authority to implement similar restrictions, points out Nichelle Harriott, senior scientist at BeyondPesticides, which is a member of a group of environmentalists suing EPA for lax enforcement of environmental regulation of neonicotinoids.

"They (EPA) just do not have the political will to do so," she added.

"The pressure on EPA will increase" as a result of the European restrictions, says James Aidala, attorney with Bergeson & Campbell. But whether there will be results remains to be seen.

Looking ahead, Aidala and others say they do not see EPA reversing course, but as a result of the European restrictions sources say stronger mitigations may result.

"Is there a need for further mitigation? And if there is, how do you implement it," asks Aidala.

Harriott is less hopeful that mitigation measures now under consideration as a result of EPA's March Pollinator Summit will yield satisfactory results given that only pesticide and agricultural industry suggestions were accepted. But, she says, "EPA's very unpredictable."

(Pesticide & Chemical Policy, April 30, 2013)

## **ARKANSAS 2, 4 D DRIFT RESTRICTIONS MAY BE EASED**

The Arkansas State Plant Board (ASPB) will be asked to ease six-year-old restrictions on farm use of 2, 4 D in major cotton producing counties. In 2007, following a series of damage reports from drift the previous summer, applications of the herbicide were prohibited from April 15-Sept 15 in 10 counties. But last month, ASPB's Pesticide Committee recommended applications be allowed on rice levees. Pesticide Division Director Mike Thompson tells Pesticide & Chemical Policy glyphosate-resistant Palmer amaranth grows actively on the levees, and "there's not much product out there that can be used for it." ASPB has not yet met to act on the proposal, but Thompson expects it to take effect May 1. He says he doesn't believe the rule loosening will pose a threat to cotton or other susceptible crops, but adds, "We're going to be very diligent in watching for that kind of thing."

Neighboring Louisiana has also maintained a ban on commercial 2, 4 D applications in cottongrowing parishes for at least 25 years, according to Louisiana Agriculture Department Director of Pesticide and Environmental Programs Bobby Simoneaux. However, the rules provide for a waiver, which Simoneaux says is frequently granted following an on-site inspection. He tells *P&CP* he expects even more waivers to be approved with this year's sharp drop in cotton acreage. There are five parishes, he added, in which all applications of 2, 4 D have been prohibited from April 15-June 15; that restriction has been in place for 10 years. James Dale, a branch director for pesticide programs with the Mississippi Department of Agriculture, tells *P&CP* the Department has no plans at this time to amend its own 2, 4 D restrictions. Currently aerial applications of 2, 4 D are banned statewide after March 31, but ground applications are permitted.

(Pesticide & Chemical Policy, April 19, 2013 Volume: 41 Issue: 17)

## MONSANTO SEEKS DEREGULATION OF GE ALFALFA

USDA's Animal and Plant Health Inspection Service (APHIS) published in Tuesday's *Federal Register* a notice (<u>http://l.usa.gov/12FIGSF</u>) that Monsanto Company and Forage Genetics International are seeking deregulation of alfalfa variety KK179, which has been genetically engineered to express reduced levels of guaiacyl lignin (G lignin).

Reduction in G lignin leads to reduced accumulation of total lignin, a wood polymer, in alfalfa forage, the principal animal feed product derived from alfalfa, APHIS notes. Monsanto's 407-page petition for deregulation (<u>http://1.usa.gov/13riFoP</u>) states that its biotech alfalfa variety is unlikely to pose a plant pest risk and, therefore, shouldn't be a regulated article under APHIS' rules.

APHIS says it will consider all public comments for 60 days after publication. The agency says it is interested in receiving comments regarding potential environmental and interrelated economic issues and effects that APHIS may determine should be considered in its evaluation of the petition.

"We are particularly interested in receiving comments regarding biological, cultural, or ecological issues, and we encourage the submission of scientific data, studies, or research to support your comments," APHIS says. "We also request that, when possible, commenters provide relevant information regarding specific localities or regions, as alfalfa growth, crop management, and crop utilization may vary considerably by geographic region." USDA, in January 2011, deregulated a Roundup Ready alfalfa variety after completing a courtordered Environmental Impact Statement (EIS) on the controversial biotech variety. In June 2011, the Center for Food Safety (CFS) and other plaintiffs filed a motion asking the federal court for the Northern District of California to reverse USDA's decision. CFS claimed that USDA didn't examine potential negative effects of deregulation on threatened and endangered species, as required by the ESA.

However, in a 35-page opinion issued Jan. 5, 2012, U.S. District Judge Samuel Conti, in San Francisco, said APHIS acted within its authority in deregulating RR alfalfa. Federal law doesn't require APHIS to "account for the effects of crosspollination on other commercial crops" in assessing the plant protection risks, he argued.

Conti cited the agency's finding that "transgenic contamination" with either conventionally grown or organic alfalfa is "possible but unlikely." He added that APHIS reasonably concluded it lacked authority to require buffers between RR alfalfa and other crops and could rely on voluntary agreements between growers and trade associations (see *P&CP* Jan. 13, 2012, Page 10).

Comments on Monsanto's petition for KK179 alfalfa can be submitted, until June 21, on the federal e-rulemaking portal at *http://l.usa.gov/128eaQ6*.

(Pesticide & Chemical Policy, April 26, 2013 Volume: 41 Issue: 18)

### **In-State CEU Meetings**

Date: August 14, 2013 Title: CTN Educational Workshop Location: Courtyard Marriott 4301 Highline Park Blvd, Oklahoma City OK Contact: Tommy Kezar (512)-829-5114 Course #: OK-13www.ctnedu.com CEU's: Category(s):

1	1A
3	3A
1	6
1	7A
2	7B

## **ODAFF Approved Online CEU Course Links**

Technical Learning College <a href="http://www.abctlc.com/">http://www.abctlc.com/</a>

Green Applicator Training http://www.greenapplicator.com/training.asp

All Star Pro Training

www.allstarce.com

Wood Destroying Organism Inspection Course www.nachi.org/wdocourse.htm

CTN Educational Services Inc http://www.ctnedu.com/oklahoma\_applicator.html

Pest Network http://www.pestnetwork.com/

Univar USA http://www.pestweb.com/

Southwest Farm Press Spray Drift Mgmt http://www.pentonag.com/nationalsdm

SW Farm Press Weed Resistance Mgmt in Cotton http://www.pentonag.com/CottonWRM

Western Farm Press ABC's of MRLs <u>http://www.pentonag.com/mrl</u>

Western Farm Press Biopesticides Effective Use in Pest Management Programs http://www.pentonag.com/biopesticides

Western Farm Press Principles & Efficient Chemigation <a href="http://www.pentonag.com/Valmont">http://www.pentonag.com/Valmont</a>

For more information and an updated list of CEU meetings, click on this link: http://www.state.ok.us/~okag/cps-ceuhome.htm

## **ODAFF** Test Information

Pesticide applicator test sessions dates and locations for February/March 2013 are as follows:

May		June	
6	OKC	4	Goodwell
9	Tulsa	6	OKC
23	Tulsa	13	Tulsa
24	OKC	27	OKC
30	Tulsa	27	Tulsa

Hobart:	Kiowa County Extension Center Courthouse Annex, 302 N. Lincoln
Lawton:	Great Plains Coliseum, Annex Rm. 920 S. Sheridan Road.
OKC:	Oklahoma County Extension Office, 930 N. Portland.
Tulsa:	NE Campus of Tulsa Community College, (Apache & Harvard) Large Auditorium
McAlester:	Kiamichi Tech Center on Highway 270 W of HWY 69

Altus:	Western OK State College		
	2801 N Main, Room A23		

- Enid: Garfield County Extension Office, 316 E. Oxford.
- Goodwell: Okla. Panhandle Research & Extension Center, Rt. 1 Box 86M

## Pesticide Safety Education Program