

6 de marzo de 2020

Estimado legislador,

Escribo en oposición a los cambios de las leyes de Idaho que rigen los pesticidas y la fumigación de cultivos. Las enmiendas propuestas por el HB487 limitarán irrazonablemente la autoridad del Departamento de Agricultura del Estado de Idaho para responder a incidentes como el que ocurrió cerca de Parma, ID en mayo de 2019, cuando se sospechaba que un aplicador aéreo volaba bajo y aplicaba productos químicos cerca de un grupo de trabajadores agrícolas aproximadamente al mismo tiempo que ellos fueron hospitalizados por exhibir síntomas de exposición química.

HB487 amplía las protecciones de alguien acusado del mal uso de pesticidas. Al eliminar "defectuoso" y "descuidado", esta legislación hace que sea más difícil penalizar a alguien culpable del mal uso de pesticidas o de aplicarlos de manera defectuosa o descuidada. Eliminando estas palabras del estatuto podría exponer a los trabajadores y al público a un mayor daño de los pesticidas tóxicos.

Apoyo estándares estrictos para la salud y la seguridad de las personas que trabajan y viven cerca de sitios donde se aplican pesticidas aéreos tóxicos y me opongo firmemente a HB487.

Sinceramente,

March 6, 2020

Dear Legislator,

I am writing in opposition to changes to Idaho's laws governing pesticides & crop dusting. The amendments proposed in HB487 will unreasonably limit the authority of Idaho State Department of Agriculture to respond to incidents such as the one near Parma, ID in May 2019 when an aerial applicator was suspected of flying low and applying chemicals near a group of farmworkers around the time they were hospitalized for exhibiting symptoms of chemical exposure.

HB 487 expands protections for someone accused of misusing pesticides. By eliminating "faulty" and "careless," this legislation makes it more difficult to penalize someone guilty of misusing pesticides or applying them in a faulty or careless manner. Striking these from the statute could potentially expose workers and the public to greater harm from toxic pesticides.

I support **strong** standards for the health and safety of people working and living near toxic aerial pesticide application sites and I am **strongly** opposed to HB487.

Sincerely,

Dear Senators,

I recommend that HB487 be tabled in committee as you do not have enough information to make a sound decision this year for ALL Idahoans. Idaho has too many incidents of harming agricultural workers in the field, inadvertent exposures to farmers and crops and unintended groundwater well contamination from pesticides. Idaho should step up its enforcement and education, not reduce liability risk for contracted aerial applicators.

1. Not only are we placing our tremendously hard working ag. workers and producers at risk while outside in the fields, but we are placing our organic food sources at risk too.

Organic farm producers should be against this bill and that if anything, the bill needs to be tabled for more information until next session. The pesticide "label is the law" so any application outside of the label places liability on the applicator. The attorneys for the pesticide companies made it that way to limit their liability. If drift from improper application contaminates an organic producer, they would have lost their pesticide free certification which takes 3 years to qualify. If anything, this bill should be modified **to ensure that organic farmers can be paid for their full losses from pesticide drift for the 3 years they are again qualifying for their USDA pesticide free certification.**

2. Differing to the EPA to enforce is not recognizing that EPA cannot enforce State Law that is outside of the Federal Law and that Federal EPA budget cuts have resulted in significantly less agency capability.

Placing the enforcement burden back to Federal EPA is cynical at best. Nationally, since 2010, Congress has cut the federal EPA budget beyond to the bone. As I understand it, R10 which covers Idaho is down to 1984 staffing levels. At a minimum, EPA should be invited to testify on this bill so the legislature understands their current EPA staffing capability and understand that the State cannot legally direct a federal agency priority as that must go through Congress. **The State could pass a resolution to Congress to increase EPA funding to meet Idaho's pesticide application enforcement priority.**

3. No landowner should have the right to injure an adjacent landowner or their rights through his own actions or contracted actions!

No landowner should have the right to injure an adjacent landowner or their rights through his own actions or contracted actions (such as aerial spray application.) when acting outside of the pesticide label as the law. There should be no limited liability since the proper application window (wind speed and direction) is defined on the label and should always be followed. Any injury to adjacent or downwind landowners should be subject to fines and in the case of personal injury, viable as a court proceeding to ensure fair compensation. Injury may also include long-term pesticide application groundwater contamination of private drinking water wells. **IDA should be presenting to the legislature the nature and extent of pesticide contamination in groundwater**

**statewide and the risk and vulnerability to private wells and public drinking water systems.**

[https://agri.idaho.gov/main/wp-content/uploads/2019/11/2018\\_GW\\_Annual\\_Report.pdf](https://agri.idaho.gov/main/wp-content/uploads/2019/11/2018_GW_Annual_Report.pdf)

4. Being a Good Neighbor which means more protective rules as our Idaho population grows into agricultural areas.

**Idaho should have more stringent requirements than the Federal requirements, not less stringent because of the population explosion of rural residential encroachment within traditional agricultural areas.** I would also like to see that Idaho Dept. of Ag. not only enforce applicator drift violations with greater fines, but also require in farm plans that pesticide mgt plans that include buffers and mandatory 24 hour notification of adjacent property owners with MSDS (Material Safety Data Sheets) copies be provided to contiguous property owners for the pesticide applied . EPA pesticide trainings (before budget cuts) included ideas for pesticide drift management such as tree windbreak plantings near rural residential and residential encroachment areas, other vegetative buffer strips and how to be a good neighbor education on application of pesticides. The burden placed on applicators to follow the label and the law should not be compromised as **all Idahoans deserve the best from our farm producers and farm producers should be proud of that and not try to get around rules and regulations. It is about being a good neighbor.**

Thank you for consideration of these comments as I used to get calls when I worked in Eastern Idaho about these concerns from Bannock County, Bingham County and Power County residents. Having grown up on an Idaho farm, I fully understand the use, risks and long-term consequences including too many family friends with cancer, neuropathy and compromised private wells.

Susan Skinner  
PO Box 4024  
Pocatello, Idaho 83205  
March 9, 2020

## Testimony of José Ramirez against HB487

My name is Jose Ramirez and I was one of the people who were harmed in Parma on May 2019 while I was working in a hop field. I clearly remember that Sunday. There was about 23 of us working. Around 11 a.m. I noticed a crop duster in the distance. When I looked up again it was close to one of the posts where we string hops. He made a U turn. I didn't think he was going to spray while we were there so I kept working. Then I saw he sprayed the onion field next to us. He made another U turn close to us and sprayed that field again. All of the sudden, our eyes started to water and I noticed some of the women were coughing and gagging and we left the field. The people who were closer to the onion field including me, were the ones who got the worst of the drift. We did not have soap and water on site that was needed in case of an emergency like this.

I went home that day and I started feeling horrible. I came home and started vomiting uncontrollably. I woke up disoriented and I would go in and out of consciousness. I felt like I had not eaten in days. The contractor called and told us to go to the hospital because other people felt sick after the incident. My son drove me to the hospital and I went to the emergency room and that is where they put IV's in me on both arms so they can give me to something to counteract the affects from what the hospital staff felt was pesticide poisoning. They gave me a shower and they had a special team that I think were firefighters to help me detox from what made me feel very ill. I felt so much better after they gave me the medicine, but I still felt weak and I could not eat. We had to miss a week of work and lost wages. I have hospital and medication bills that have made it harder for us.

It makes me so angry to see how irresponsible the pilot was. I know that this could have been avoided. I always wear reflective gear that is required to work in hop fields as well as two others so we can be seen. We were told that the pesticides that the pilot sprayed were not bad, but what a coincidence that people started to feel sick and had to go to the hospital after the plane sprayed next to where we were working. It is hard to understand why this would happen.

We are human and honorable people and all we want to do is support our families, pay our bills, and put food on our tables. I think about this incident every time I see a crop duster working in agricultural fields. I always worry about the long term affects of this incident. Imagine if it happed to your wife and children. I was lucky that my family was working ahead of me and did not get the drift. If only people would put themselves in my place so they would understand. It makes me feel like no one cares about those of us who do this hard labor.

I do not want what happened to me happen to other people in the future. I want families to be safe and not worry about getting sick from pesticides and the carelessness of those who apply them. This is why I oppose HB 487. I feel this bill will harm more people and pilots would be more careless and irresponsible. I hope you consider us and see us human beings, who all we want to do is live and work in a safe space. Thank you.

(Translated from Spanish)

Testimony H487

My name is Elaine Kazakoff. I live in Boise, Idaho and I am speaking as a representative of the Idaho Organization of Resource Councils. IORC empowers people to improve the well-being of their communities through the power of grassroots organizing.

As Co Chair of the IORC Agriculture and Food Task force I am deeply concerned with H 487 which seems to be taking ~~exactly~~ the wrong approach to protect farmworkers from faulty or careless pesticide application. *still in negligent*  
*by making any modifications to existing rules*

I'm sure you are all aware of the incident in May of 2019 where approximately 25 farmworkers were in a field where they were believed to be exposed to pesticide drift by a pilot doing aerial spraying. That pilot was later found to have violated Idaho Code which prohibits applying pesticides in a faulty, careless or negligent manner, exactly the language the bill is trying to modify. *The sponsor is minimizing the modification but we would question why changes frequently and effectively applied rule at all*  
The Idaho Agricultural Aviation Association is not acting in the best interest of farmworkers. Their request to amend section 22-3420 will make it more difficult to prove an individual or company misused pesticides. In the May case, using existing regulations, ISDA reports that 13 workers were hospitalized, their report also states that emergency responders did see evidence of spotting from pesticide drift on vehicles the farmworkers came to the hospital in. ISDA concluded that the potential for drift and human exposure was present and that making the aerial application over approximately 25 workers was avoidable.

If H487 is passed what happens the next time that situation plays out? Workers were harmed and we collectively have a duty to keep them safe from harm with sensible regulation. These proposed changes do not remove ambiguous language as stated by the bill's sponsor, they weaken the existing legislation.

*Strip it Short on time* { The Idaho Agricultural Aviation Association is lobbying that rulemaking on pesticides be mandatory every five years. This is contrary to Governor Little's red tape reduction guidelines which require rules be reviewed every 5 years. ISDA's current guidelines are available to the public and easily obtainable through a simple public records request to ISDA. ISDA's treatment of the pilot in the May incident was consistent with their existing rules.

Given that less than one year ago we had a serious incident that sickened several farmworkers this is not the time to make our regulations regarding Pesticides weaker. If anything we should be considering how to better protect farmworkers. ~~Please do not allow this bill to pass.~~ *Existing rules are effective*

Lastly I want to express concern over several rules that were eliminated by the House Agricultural Affairs Committee from the Idaho Department of Agriculture Rules Governing Pesticide and Chemigation Use and Applications. Section 310 governing low flying prohibitions, section 320 Wind Velocity Restrictions, and section 600 Application near hazard areas. These eliminations along with the previously discussed changes create concerns in our organization that farmworker safety is being compromised. As you consider H487 please also consider these rules that have been eliminated.

H487

Mr. Chairman and Members of the committee:

My name is Rick Waitley, I serve as Executive Director of Food Producers of Idaho an organization representing over 40 commodity and farm organizations in Idaho and the Pacific Northwest.

Food Producers of Idaho first reviewed H487 on February 12. The minutes read:

Brian Oakey, Deputy Director ISDA spoke to H487 which eliminates ambiguous language within the statute and adds new language that will require the Department of Agriculture to promulgate rules related to penalties and restrictions due to violations of this section through a negotiated rule making process. Members asked questions of Brian related to H487.

H487 was heard in House Ag Affairs on February 25 and sent to the floor where it passed by a vote of 52-12- 6 on February 28. In between February 12-February 28 several folks came to me and asked that the Department of Ag be invited to attend a future meeting of Food Producers to answer additional questions of concern that they had about the bill. On March 4, Chanel Tewalt returned to answer questions. Members concluded from their review of the bill and the answers provided by ISDA that the bill had implications on more than just the agricultural aviation industry. At that time, Food Producers voted to oppose the legislation due to the fact that

they felt several parties could be impacted by the legislation were not at the table to have input on the content of H487.

I was contacted by George Parker, an aerial applicator who <sup>has</sup> serves in a leadership role with the Idaho Agricultural Aviation Assn. on Thursday, March 5 asking for explanation and clarification as to the position taken by Food Producers. I want to commend Mr. Parker and members of his association, along with their lobbyist Dave Lehman for their communication and education on this bill over the past few days.

Mr. Lehman, Chairman Boyle and Mr. Parker attended Food Producers meeting yesterday and presented some changes that had been agreed to by their organization and Chairman Guthrie. These changes were reviewed by the Food Producer members.

If you have reviewed our minutes from yesterday and the Green Sheet you will see we did not change our position in opposition to H487 as it is currently written. It is our understanding that the measure potentially could be sent to the floor of the Senate for some amendments. Food Producers in their review did ask that in Section 1: 22-3420, that item 6 remain in the bill "*apply ineffective or improper pesticides*". Depending upon the path forward for the bill, and amendments that may be attached, the Food Producers membership has empowered the Food Producers Executive Committee to review any amendments and to act quickly related to Food Producer's position on the legislation depending upon those changes.



Good morning. My name is Marielena Vega. I come here today, to this Senate Hearing, to express concerns over the proposed changes that House Bill 487 (HB487) brings to the State of Idaho and our farm-working community in the State.

I am a member of Visión 2C, a new Canyon County Chapter of the Idaho Organization of Resource Councils, a farmworker subcommittee that was formed in response to the pesticide exposure incident that occurred last May in Parma, Idaho in which an approximate twenty people were seen and treated due to pesticide exposure by an aerial applicator (crop duster).

Visión 2C has been following up with the farmworkers who were exposed to the pesticide and working towards making sure proper accountability is taken on the issue and to prevent any incident like this one from happening again. It's been an on-going issue and process that Visión 2C has been actively involved in and holds the interest of its membership, including but not limited to, anything in relation to the incident.

As a member of Visión 2C, and as a daughter/sister/cousin/niece/aunt/and seasonal farmworker myself, I find it concerning that a bill that limits the authority of the Idaho State Department of Agriculture's (ISDA) to respond and regulate pesticide use and application was introduced.

Striking out the words "faulty" and "careless" from the existing Idaho Code, leaves the ISDA with limited authority to respond to incident like the ones in Parma, unless they meet "a standard of negligence."

Given the recent incident in Parma, it is hard to believe that HB487 is introduced and up for discussion. It is almost unbelievable, given that the farmworkers affected by pesticide exposure in Parma, continue to suffer and deal with the burden of medical bills and present/future health issues/concerns as result of pesticide exposure by a crop duster. Allowing HB487 to pass would mean that the negative impact and experience that these farmworkers live and continue to live holds little to no importance as does preventing future incidents like these.

It is necessary for there to be language that gives the ISDA authority to respond violations of pesticide and cite those responsible for such violations. Eliminating this language allows for less regulation and even less accountability.

Additionally, I would like to add that HB487, adds language requiring the ISDA penalty matrix to be codified in rule and requires the ISDA to promulgate new rules every five years -- which creates unnecessary and redundant regulations that contradict the Red Tape Reduction Act issued by Governor Little.

Instead of moving forward with HB487, a considerable approach to the situation could be that sponsors of the bill address their concerns about penalties and restrictions and allow

Marielena Vega

for an opportunity for open discussion on the matter, **and** allow an opportunity to present and discuss the health and safety concerns of our farmworker community in Idaho. It is important that we take into consideration the concerns of our farmworker community and their families. The matter and should be given thoughtful consideration.

Because of these concerns, I respectfully urge all of you today, to consider the dire consequences of this proposed legislation, not only as a member of Visión 2C but as an Idahoan who has performed farm labor and has been exposed to various chemicals/pesticides through personal and generational exposure.

Thank you.

*Marietena Vega 2*

# Verve™

## Plant Growth Regulator

Intended for Commercial or Agricultural Use Only

For use on Apples, Blackberries, Blueberries, Cantaloupes, Cherries, Grapes, Peppers,  
Tobacco, Field and Greenhouse Tomatoes, Walnuts, and for Minimizing Lodging in Barley and Wheat.

For the Removal of Dwarf Mistletoe in Ornamental Conifers and Leafy Mistletoe in Ornamental Deciduous Trees, for the Elimination of Undesirable Fruit on Ornamental Trees and Shrubs, for Inducing Flowering of Ornamental Bromeliads, for Increased Lateral Branching in Ornamentals, for Reducing Plant Height of Potted Daffodils and Stem Topple of Potted Hyacinths, in the Production of Cucumber, Squash and Pumpkin Hybrid Seed, and for Use on Turf including Golf Courses and Sod Farms.

**ACTIVE INGREDIENT:**

Ethephon: (2-Chloroethyl) phosphonic acid\* ..... 21.7%

**OTHER INGREDIENTS:** ..... 78.3%

**TOTAL:** ..... 100.0%

\*1 Gallon contains 2 lb ethephon.

**KEEP OUT OF REACH OF CHILDREN**  
**DANGER / PELIGRO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

See Inside Label Booklet for PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300.

For Medical Emergencies Only, Call (877) 325-1840.

FIRST AID	
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>

**HOTLINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact (877) 325-1840 for emergency medical treatment information.

**NOTE TO PHYSICIAN**

Probable mucosal damage may contraindicate the use of gastric lavage. No specific antidote is available. All treatments should be based on observed signs and symptoms of distress in the patient. Overexposure to materials other than this product may have occurred.

Victims of severe overexposure by inhalation should be kept under medical observation for up to 72 hours for delayed onset of pulmonary edema. In a victim of overexposure by ingestion, careful gastric lavage is required due to the possibility of stomach or esophageal perforation. This material is an acid but the use of alkaline substances to neutralize it is contraindicated.

EPA REG. NO. 228-660

Manufactured for  
Nufarm Americas Inc.  
11901 S. Austin Avenue  
Alsip, IL 60803



Grow a better tomorrow.

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
DANGER/PELIGRO**

**CORROSIVE:** Causes irreversible eye damage. Wear safety goggles when handling. Harmful if swallowed or absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin. Do not inhale vapors as this product will irritate mucous membranes.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance selection chart.

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as nitrile, butyl, neoprene or barrier laminate
- Shoes plus socks, and
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Controls Statement**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard for agricultural pesticides (WPS) [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing. Wash the outside of gloves before removing.

**ENVIRONMENTAL HAZARDS**

Do not contaminate water used for irrigation or domestic purposes. Do not apply directly to water, or to areas where surface is water present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Avoid spray drift to nearby crops, as this product will cause modifications in plant growth. Plant injury or reduced yields may result. Do not plant another crop within 30 days after treatment.

**DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulations. Read entire label before using this product.

**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 intervals. 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 48 hours. The REI is 72 hours in areas where average rainfall is less than 25 inches per year.

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 over long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material, such as nitrile, butyl, neoprene, or barrier laminate; chemical-resistant footwear plus socks; protective eyewear; chemical-resistant headgear for overhead exposure.

Notify workers of the application by warning them orally and posting warning signs at entrances to treated areas.

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried

**SPRAY DRIFT**

**AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.** The interaction of many equipment and weather related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

When states have more stringent regulations, they should be observed. The applicator should be familiar with and take into account the information covered in the [Aerial Drift Reduction Advisory Information](#), below.

**Aerial Drift Reduction Advisory Information**

[This section is advisory in nature and does not supersede the mandatory label requirements]

**Information on Droplet Size:** The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions below).

**Controlling Droplet Size:**

- Volume – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure – Do not exceed the nozzle manufacturer's specified pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of Nozzles – Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

**Boom Length:** For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

**Application Height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**Swath Adjustment:** When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

**Wind:** Drift potential is lowest between wind speeds of 2 - 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential.

**NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**Temperature and Humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature Inversions:** Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small-suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive Areas:** This pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

**IMPORTANT:**

- Do not apply this product through any type of irrigation system.
- Do not use this product for purposes other than those listed on the label.
- Do not exceed the rate of this product per acre per year specified on this label.

**PRODUCT INFORMATION**

This product is a plant growth regulator which penetrates plant tissues and degrades to ethylene which affects the growth process of the plant. This product can be used to produce the following effects in treated crops:

Apples, Grapes, Peppers, Tomatoes:	Earlier maturation and coloring of leaves
Apples, Cherries [except CA], Walnuts:	Loosens fruit/nut for earlier and more efficient harvest
Blackberries [WA & OR only]:	Earlier ripening, loosens fruit
Blueberry	Concentrates maturation for earlier harvest, reduces undesirable barrenberry fruit
Cantaloupes:	Helps abscission of fruit
Sweet Cherries:	Increases hardness of dormant fruit buds, delays spring bloom in the Pacific Northwest
Flue-Cured Tobacco:	Uniform coloring of mature leaves, earlier harvest
Ornamental Trees and Shrubs: Apple, Crabapple, Carob, Cottonwood, Elm, Flowering Pear, Horsechestnut (Buckeye), Maple, Oak, Olive, Pine, Sour Orange, Sweetgum, And Sycamore:	Reduces or eliminates undesirable fruit development
Ornamental Conifers:	eliminates dwarf mistletoe
Ornamental Deciduous Trees:	eliminates leafy mistletoe
Ornamental Bromeliads such as <i>Ananas</i> , <i>Aechmea</i> , <i>Neoregelia</i> , <i>Vriesia</i> , and <i>Billbergia</i> .	Initiates flowering
Roses, Tallhedge, and Apple Nursery Stock	Initiates earlier leaf drop, allowing digging of stock plants prior to the onset of unfavorable weather
Greenhouse, Shadehouse, and Field Grown Ornamental Plants such as Azalea, Begonia, chrysanthemum, Geranium, Impatiens, Lantana, Verbena, Vinca vine.	Increases lateral branching
Potted Daffodils and Hyacinths	Aids in reducing total plant height of potted daffodils and stem topple of potted hyacinths at time of full flower
Cantaloupe, Cucumber, pumpkin, and squash	Modifies sex expression and flowering pattern to facilitate hybrid seed production. <b>DO NOT TREAT CROPS FOR HUMAN OR ANIMAL CONSUMPTION</b>
Turf:	Slows growth of turfgrass; suppresses seedhead formation of <i>Poa annua</i> and white clover

Additional information on how to use this product (including use rates, spray volumes (gallons of water per acre), and spray equipment) or if an application should be made based on weather conditions (such as variable temperatures or anticipated rainfall) can be obtained from your local Extension or Horticultural Specialist, Nufarm Representative or Farm Advisors.

**MIXING DIRECTIONS**

Do not prepare more spray solution than required for one day's use. Do not allow the spray solution to stand overnight. Do not allow any spillage of the concentrated product on any spray equipment or on airplane parts. This product is corrosive. **CLEAN UP SPILLS IMMEDIATELY BY FLUSHING WITH PLENTY OF WATER.**

**OTHER PRECAUTIONS**

- Do not allow spray to drift to nearby crop. This product will affect their growth and could injure the crop or lead to reduced yields.
- Do not plant another crop in treated fields until 30 days after the last application.
- Use only the additives specified on this label with this product.
- **DO NOT MIX THIS PRODUCT WITH AMMONIUM THIOSULFATE. SUCH TANK MIXTURES RESULT IN FORMATION OF TOXIC FUMES.**

**APPLICATION VOLUMES AND SPRAY COVERAGE**

Thorough spray coverage is essential for this product to produce maximum effects. Spray coverage is affected by choice of equipment, nozzle selection and spray boom setup as well as spray pressure, plant size and canopy density. For both air and ground applications, choose equipment that will assure thorough coverage of plant canopy (follage and fruit). The actual spray volume required will vary with the size and density of the plant canopy and the equipment used. In California and Arizona use a minimum spray volume of 5 gallons per acre for aerial applications.

**EQUIPMENT CLEANING**

This product is acidic and can damage acrylic plastics, certain paints, and metals when exposed to spray droplets for extended periods of time. To prevent damage, rinse any exposed surface should thoroughly using soap and water within one hour of exposure.