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Sustainable Agriculture

Vintre®

Spray adjuvant

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SUSTAINABLE FARMING SOLUTIONS
Harness the power of nature

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Vintre®
Spray adjuvant

ADVANCED ADJUVANT TECHNOLOGY

VINTRE® is the best partner for your foliar pesticide and fertiliser sprays. It offers superior spreading and penetration properties compared to other adjuvants. TransPhloem® technology, ensures faster delivery of active ingredients to target sites within plants. VINTRE can improve the efficacy and performance of systemic pesticides and foliar nutrient sprays compared to other types of adjuvants. Using VINTRE simplifies choosing the right adjuvant for the job and eliminates the need to have several adjuvant products on hand.

HERBICIDE PROGRAMS

- TransPhloem technology delivers MORE systemic herbicide throughout the growing points of the weed to the roots FASTER than other types of adjuvants
- Superior spreading, wetting, and penetrating properties compared to other adjuvants
- Enhanced rainfastness due to quick cuticle penetration
- Ideal for herbicide resistance management programs due to speed and completeness of kill

INSECTICIDE/FUNGICIDE/MITICIDE PROGRAMS*

- Penetrates waxy cuticles to move systemic and translaminar pesticides into the plant quickly
- Is an excellent spreader, at low rates, for contact pesticides
- Knocks down mite webbing and leaves no sticky residue to attract dust and cause mite flare-ups
- Unlike crop oils it does not decrease stomatal conductance, reduce transpiration, or increase plant stress
- If use of another type of adjuvant is required by the pesticide label VINTRE can also be added to improve spreading and penetration

FOLIAR NUTRITIONAL PROGRAMS

- Increases nutrient uptake into the plant
- Ensures complete coverage for better nutrient distribution and uptake by the plant

* Always read and follow pesticide manufacturers' labels for the proper use of adjuvants with their products.

TransPhloem™ Technology

WHAT IS TRANSPHLOEM TECHNOLOGY AND WHY IS IT SO IMPORTANT?

TransPhloem® technology accelerates the movement of pesticide active ingredients and nutrients into a plant's phloem for translocation throughout the plants vascular system.

A study conducted by the University of Illinois validates that TransPhloem technology improves the translocation of a systemic pesticide application. Using a C14 radioactive isotope of glyphosate, the study concluded VINTRE adjuvant was absorbed into the leaf quicker and moved a greater percentage of herbicide throughout the plants vascular system to the roots to the roots.

HOW VINTRE, WITH TRANSPHLOEM TECHNOLOGY, WILL IMPROVE YOUR POST-EMERGENT WEED CONTROL?

THE CHALLENGE

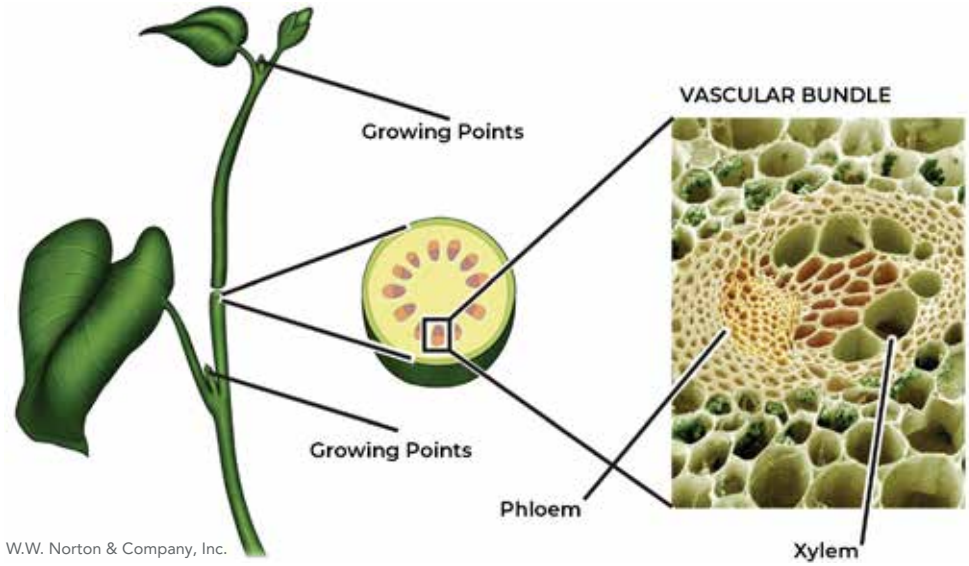
Delivering a killing dose of a systemic herbicide to the roots of emerged weeds is not a easy task. Many weeds have hairy or waxy surfaces that provide a repellent barrier for post-emergent herbicide applications. Without VINTRE in your tank mix a significant portion of your herbicide spray could be lost.

Fat Hen (*Chenopodium album*) leaf waxy surface

"The herbicide and adjuvant need to translocate to the roots via the phloem. Within the phloem are cells that regulate the movement of water, nutrients and materials, including herbicides. Moving a herbicide solution into the phloem and then having it translocate effectively to the roots is another challenge to achieving excellent weed control."

University Arizona – Dr. William McCloskey

Phloem within a plant's vascular system



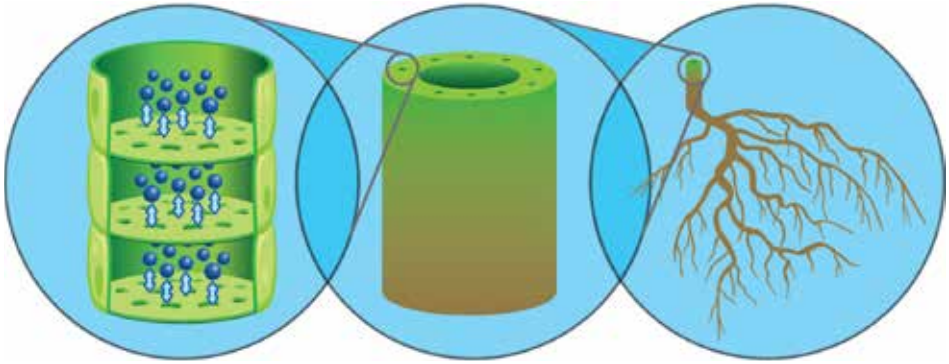
W.W. Norton & Company, Inc.

Movement of materials within the phloem

Phloem allows materials to flow both up and down the plant's vascular system

A lateral cut of a stem illustrates the phloem and xylem vascular bundles

The phloem carries materials throughout the plant including down to the root system



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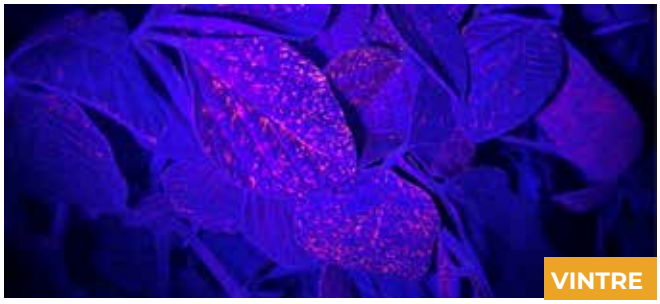
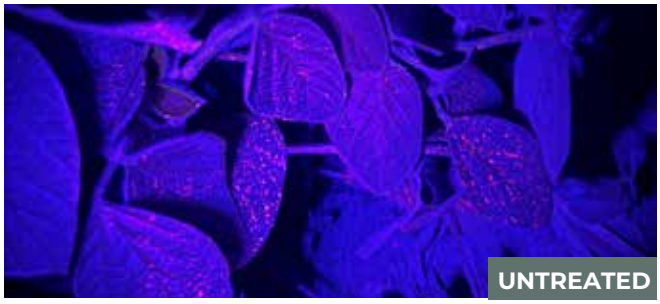
THE SOLUTION

It is critical in post emergent herbicide sprays to get excellent coverage.

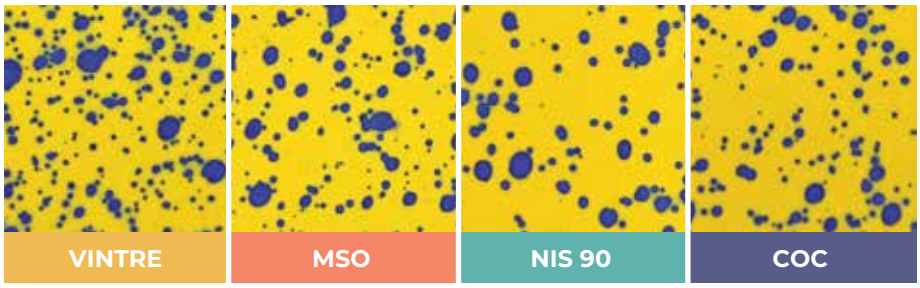
- The superior surface tension reduction properties of VINTRE provides much improved wetting and coverage of the leaf
- Compared to other adjuvants, VINTRE delivers more droplets of uniform size resulting in more complete coverage and effectiveness

1. SUPERIOR SPREADING

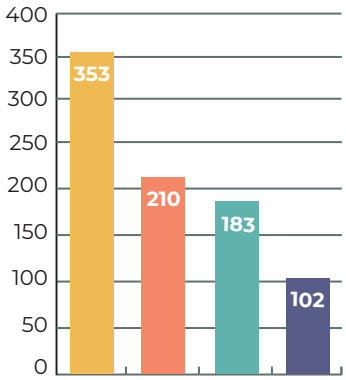




Droplet study per cm²



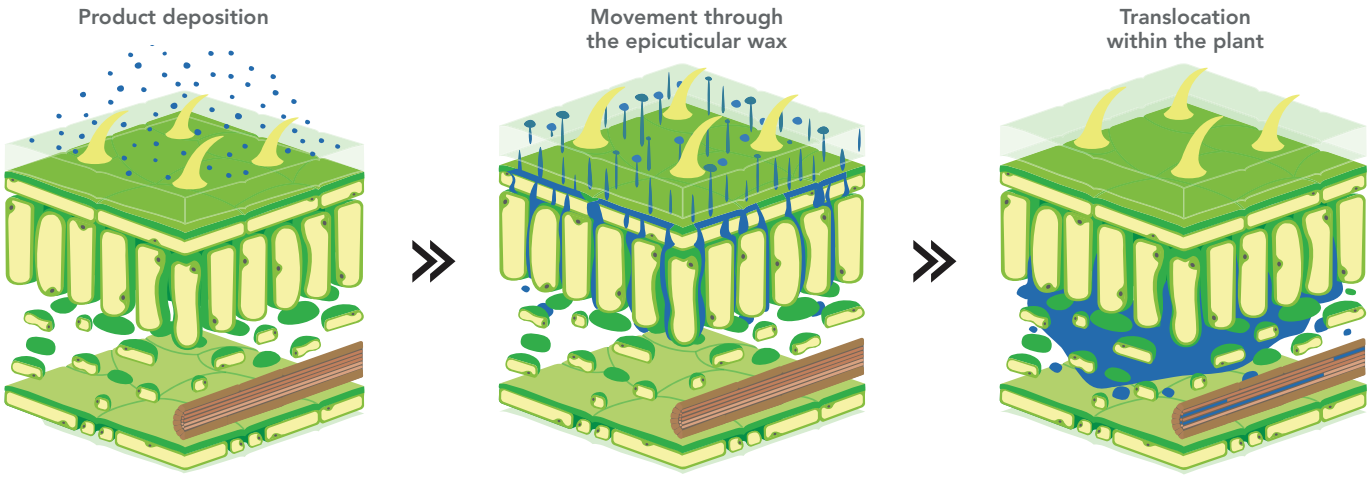
Droplets per cm²



2. SUPERIOR PENETRATION

Leaf surfaces have developed formidable barriers to the delivery of systemic herbicides and translaminar pesticides into the plant. VINTRE, with OROWET® technology, overcomes these barriers with a novel formulation that allows movement through the epicuticular wax on the leaf surface and between cells inside the leaf.

- OROWET TECHNOLOGY makes for more uniform translocation with reduced phytotoxicity.

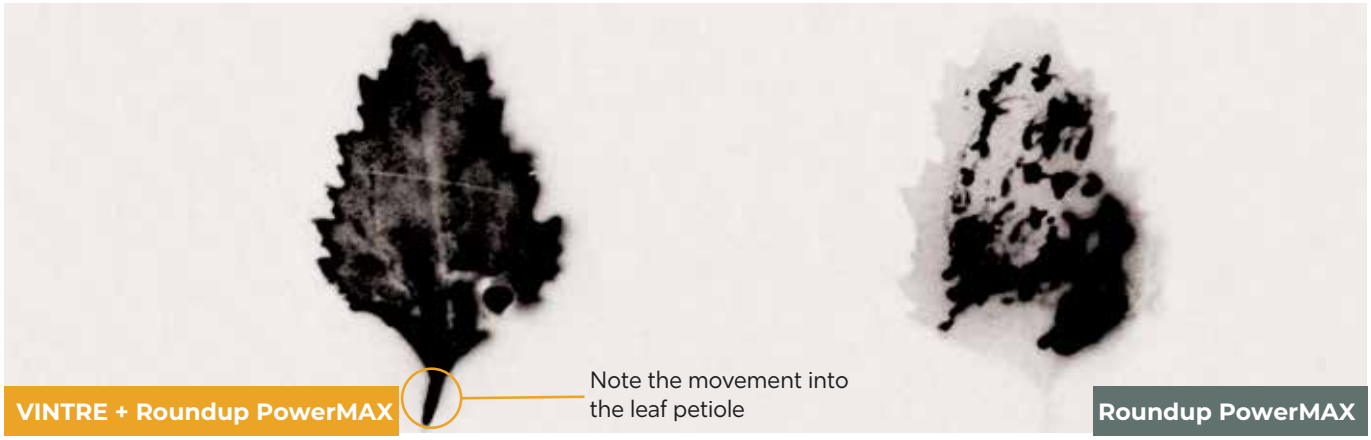


3. SUPERIOR ABSORPTION

VINTRE, with TransPhloem technology, was shown to move the Roundup PowerMAX solution into the leaf more than twice as fast as a MSO or Roundup PowerMAX solution alone. In as little as 3 minutes the VINTRE solution is thoroughly absorbed into the leaf, delivering more herbicide for quick translocation and providing excellent rainfastness.

The result of the excellent leaf absorption and penetration of VINTRE is shown in this photo from a recent study. A radioactive isotope solution of glyphosate was applied to a Fat Hen leaf. After only 15 minutes the VINTRE application had penetrated and distributed the glyphosate completely throughout the leaf, whereas glyphosate alone was spotty. Also very significant is the movement of the VINTRE solution into the petiole illustrating better translocation of the herbicide application.

Radioactive isotope herbicide absorption Fat Hen: 15 minutes after application

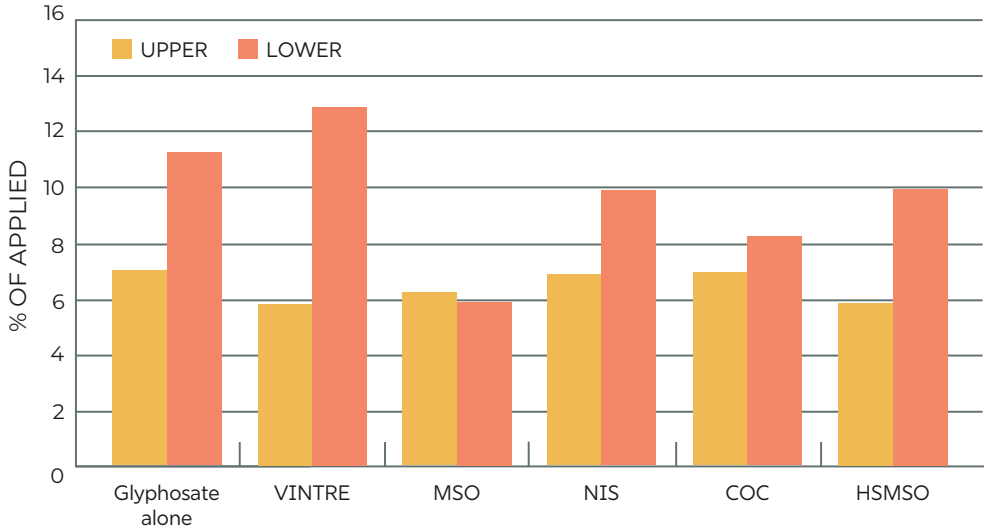


4. SUPERIOR TRANSLOCATION

TransPhloem technology improves the translocation of the herbicide and adjuvant solution when it moves into the main stem and vascular system of the weed. Research shows that when VINTRE is added to glyphosate a higher percentage of applied herbicide is translocated compared to glyphosate alone or when mixed with other adjuvants.

- Results in a faster more complete kill greatly reducing need for re-sprays.

Translocation of glyphosate into Fat Hen plant sections at 24 hours



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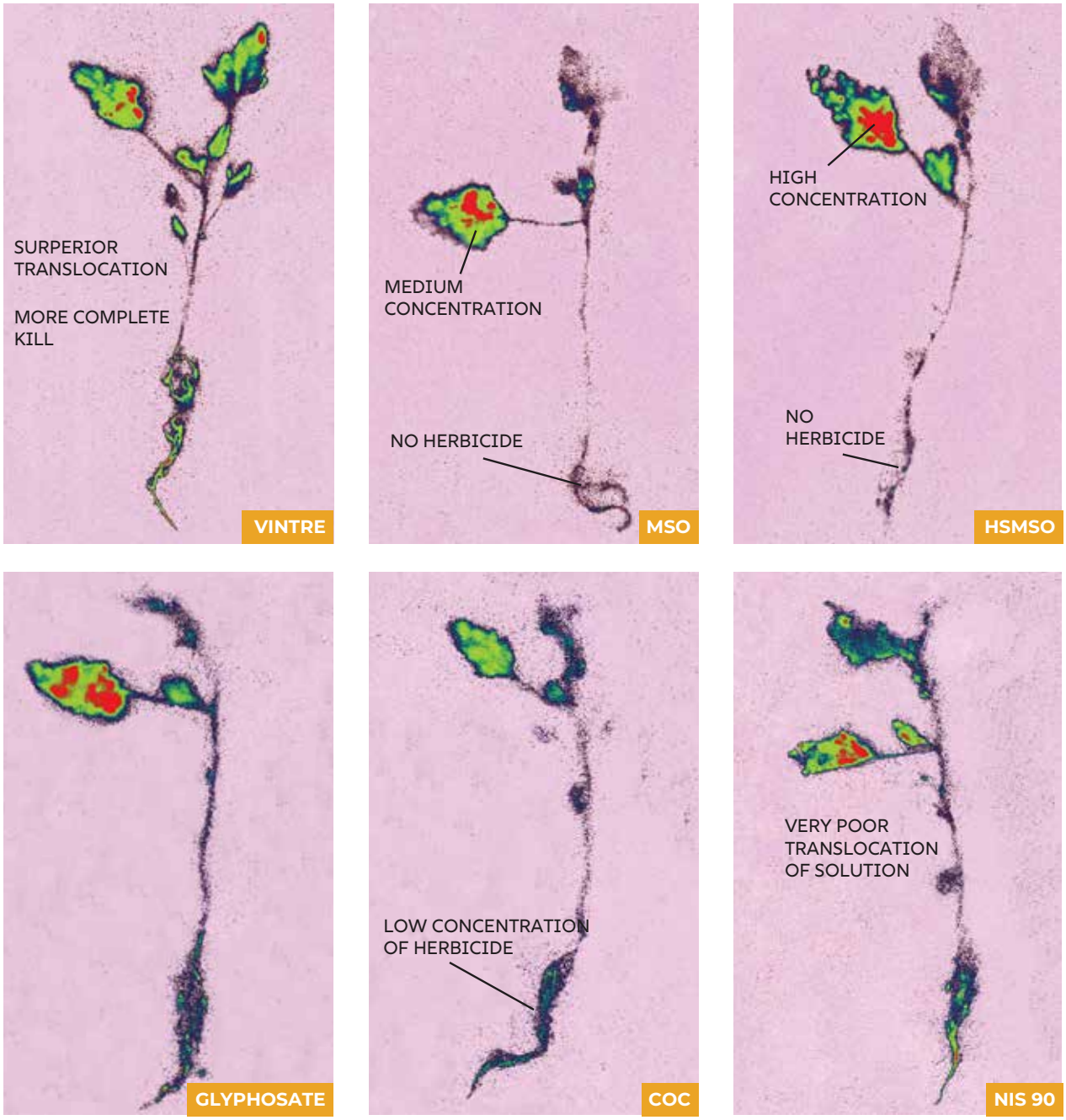
The superior translocation provided by TransPhloem technology is shown by these phosphorescent images of the C14 radioactive isotope glyphosate concentration in Fat Hen plants. A single leaf was treated with the glyphosate/ adjuvant solution. At 12 hours, the plants were uprooted and the phosphorescent images were taken. Only those parts of the plant that have some concentration of C14 glyphosate show up in the image. The VINTRE treated plant has more area visible signifying the C14 solution has moved into more parts of the plant than other adjuvants. Also, the VINTRE solution has the most green areas and very little red areas on the treated leaf, indicating the glyphosate has moved out of the leaf into other areas of the plant. The VINTRE plant also has the largest amount of red area in the roots, showing a high concentration of glyphosate has been translocated to the roots in 12 hours.

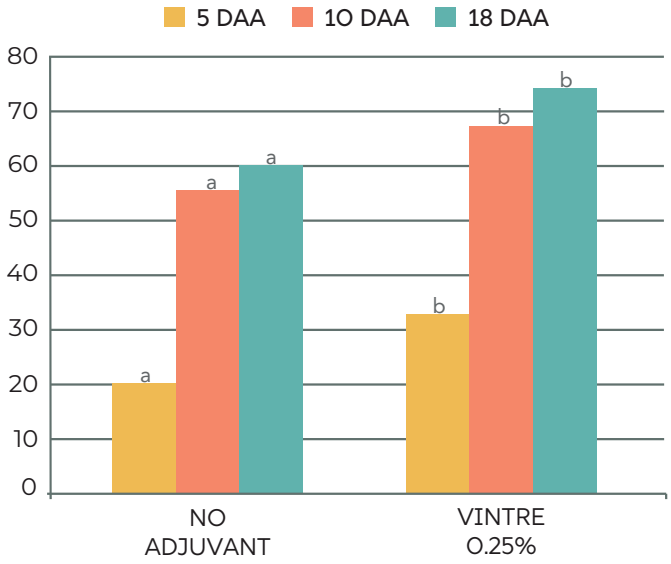
Fat Hen 12 hours after application - Radioactive isotope phosphorescent images

HIGH CONCENTRATION MEDIUM CONCENTRATION LOW CONCENTRATION



VINTRE WITH ROUNDUP POWERMAX 3

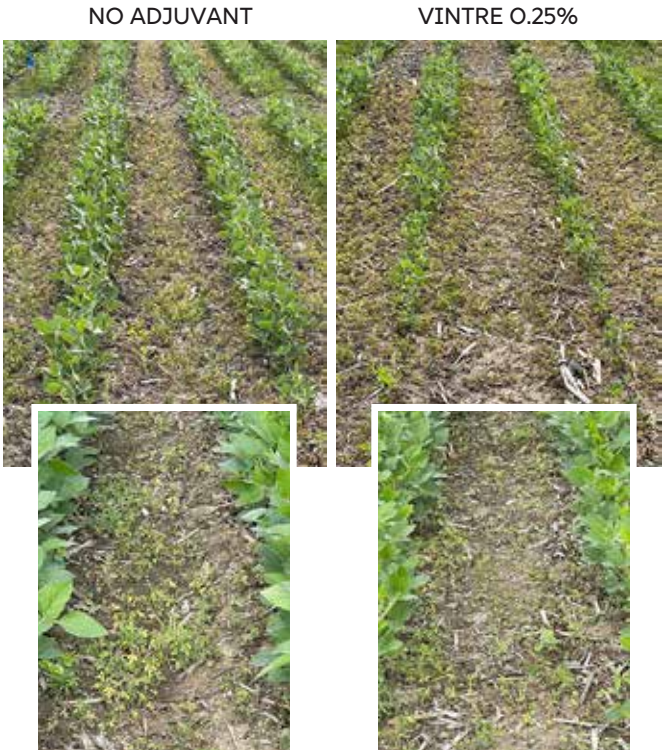
Bladder ketmia (*Hibiscus trionum*) Control (%) at 5,10 & 18 days after application



Bars within each evaluation timing with the same letter are not significantly different (p<0.05)

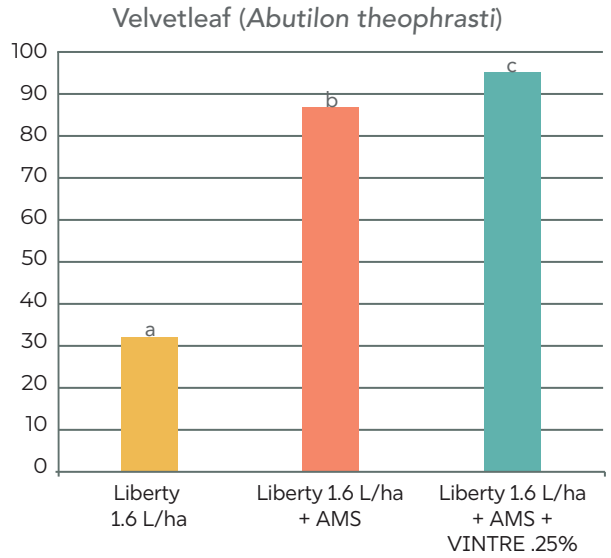
Bladder ketmia (*Hibiscus trionum*)
Roundup Powermax 3
herbicide applied at 1 L/ha
140 L/ha, AIXR 110015, 3 bar

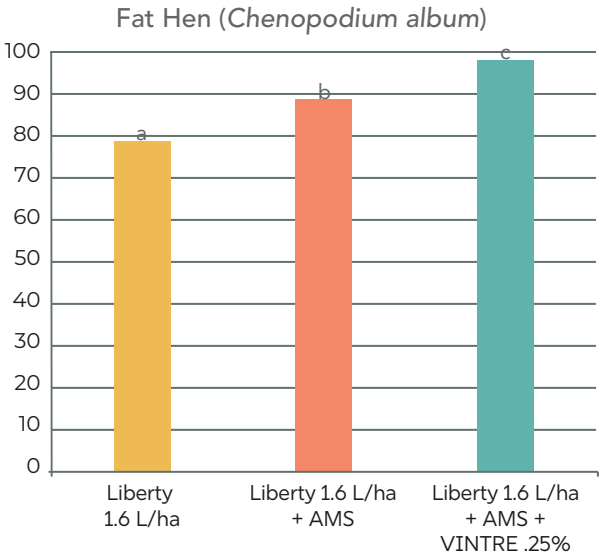
New Ross, IN
Soybean Asgrow XtendFlex
Planted May 4th, 2023
Sprayed June 17th, 2023



VINTRE IMPROVED THE CONSISTENCY OF LIBERTY

Weed Control (%) at 21 days after application





Bars with the same letter are not significantly different (p<0.05)

2023 - Pinney PurdueAg Center

Liberty 280SL

Liberty + AMS

Liberty + AMS + VINTRE

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THE RESULTS

VINTRE, with TransPhloem technology, moves systemic herbicides into the plants roots quicker and at higher concentrations than other types of adjuvants. You will see a faster more complete kill of target weeds when using VINTRE. As shown in this pot study the addition of VINTRE added solution resulted in the most commercially acceptable control.

- Fat hen without VINTRE will continue to compete with crops
- These weeds will most likely need to be resprayed

Burndown herbicide trial
Fat Hen: VINTRE, COC, MSO, HSMSO & NIS 90

APPLICATION AND USAGE DIRECTIONS

A real benefit to growers is the versatility VINTRE adjuvant brings to spray programs. VINTRE has the capability to act as a wetter, spreader, penetrant and a translocation aid depending on the use rate. Regardless of whether you are spraying a contact or systemic pesticide or foliar nutrient VINTRE can deliver it to the desired action site — giving the active ingredients the best chance for peak performance. This makes selecting the right adjuvant simple and means you don't have to buy several adjuvants for your different spray programs.

Always read and follow label directions

SITUATION	RATE PER 100 L	CRITICAL COMMENTS
Insecticides, Fungicides, Miticides	50–200 mL (0.05–0.2%)	Use the higher rate on hairy, waxy, dusty or hard to wet surfaces. Prior to using this product, read all directions on the label and on the label of the agricultural chemical being used, including the Safety Directions, First Aid instructions, Precaution statements and any Warning statements.
Strawberries & Mangos	50–100 mL (0.05–0.1%)	
Plant Growth Regulators and Foliar Applied Nutrients	25–100 mL (0.025–0.1%)	
Herbicides	100–250 mL (0.1–0.25%)	
Hard to Kill Weeds	400–800 mL (0.4–0.8%)	

Mixing and Application Instructions:

- Follow the mixing and application instructions for the pesticide(s) or foliar nutrient(s) being tank mixed with VINTRE.
- With constant agitation, add VINTRE to the spray tank after all other materials are thoroughly dissolved or mixed.
- VINTRE will not affect the pH of the spray solution.
- Be aware VINTRE will dissolve any residues in the tank, lines and nozzles from previous spray materials. Use a commercial tank cleaner or mix 20 oz. of VINTRE in 20 gallons of water and thoroughly circulate through your sprayer. Dispose of the spray solution properly.

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For more information on Vintre

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