



## Increases the Spreading and Adhesion of Insecticides, Fungicides, Herbicides and Other Inputs

XENA® Spreader-Sticker, when added to your tank mix, will improve the coverage and retention of active ingredients on the plant surface. The nonionic surfactants in XENA help to improve efficacy by spreading the droplet out, increasing the plant area covered. Upon drying, XENA aids in adhering particulate active ingredients to the plant surface by forming a thin, transparent film made of plant-derived polysaccharides, rather than synthetic polymers. Therefore, after your active ingredients have been more efficiently distributed, they will stay there longer.

### **PRODUCT BENEFITS**

- OMRI and WSDA Listed for Certified Organic Crop Production.
- Formulated with three plant-safe, amphiphilic nonionic surfactants, and a complex polysaccharide.
- Includes a natural, amphiphilic glycoside saponin with potential permeability properties.
- XENA's polysaccharide forms a thin, transparent film that aids in retention of particulate actives. *See figure 1.*
- Significantly reduces surface tension of water for better spread across the plant surface. It can increase the area contacted with the same amount of spray. *See figure 2.*
- Compatible with most pesticides.

### **DIRECTIONS FOR USE:**

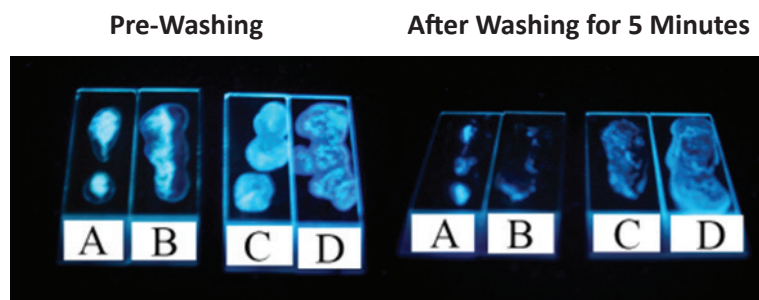
XENA Spreader-Sticker can be applied to all crops including fruit trees, vines, tree nuts, fruits and vegetables, field and row crops, ornamental trees, shrubs and flowers, containerized plants, and turf. Always perform a phytotoxicity test on a small plot before large-scale application.

### **RECOMMENDED USE RATES:**

Always add XENA Spreader-Sticker last, after all other products have been added, when spray tank is 3/4 full and with agitation.

Ground or Aerial Applications: Generally, apply 2 to 4 oz/100 gallons of water, but can use up to 16 oz/100 gallons of water.

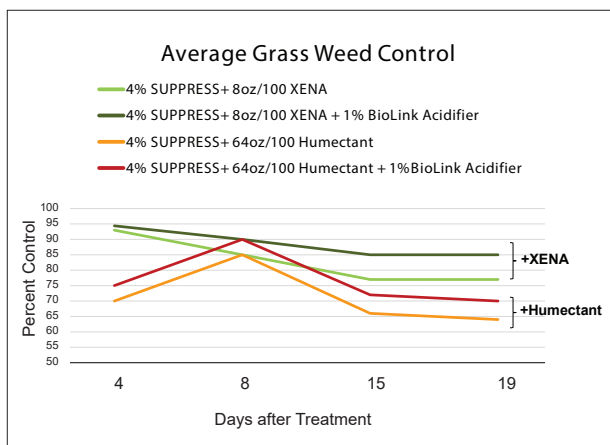
Nursery & Container and Home & Garden Use: Apply 1 teaspoon per 5 gallons of water.



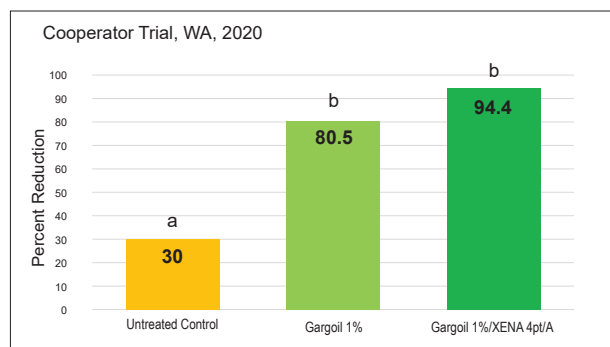
*Figure 1:* Water soluble Calcaflor White fluorescent tracer was used for this demonstration. Slides were held at 95° F for 2 hours after drying. For wash-off, slides were immersed in distilled water for five minutes on an orbital shaker set to 100 RPM. Left panel is the pre wash-off image and right panel is the post wash-off image. Photographs were obtained under a short-wave UV light. A: Low rate of  $\alpha$ -pinene, B: High rate of  $\alpha$ -pinene, C: Low rate of XENA Spreader-Sticker, D: High rate of XENA Spreader-Sticker.

## XENA SPREADER-STICKER

### The Effect of Different Adjuvants on SUPPRESS® Herbicide Control of Grasses in Almonds



### Gargoil® for the Control of Pear Rust Mites on Bartlett Pear



- Application on 9/10 in organic Bartlett plot
- Ten leaves per replicate, four replicates per treatment
- Counts made before application and 48 hours after application with mite brush

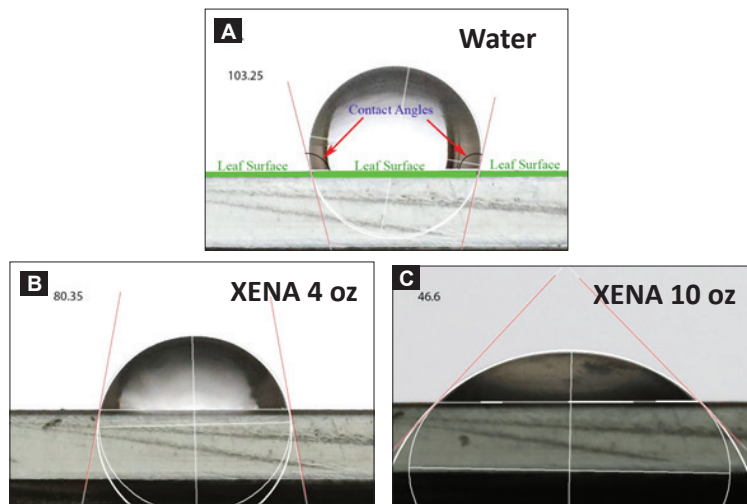
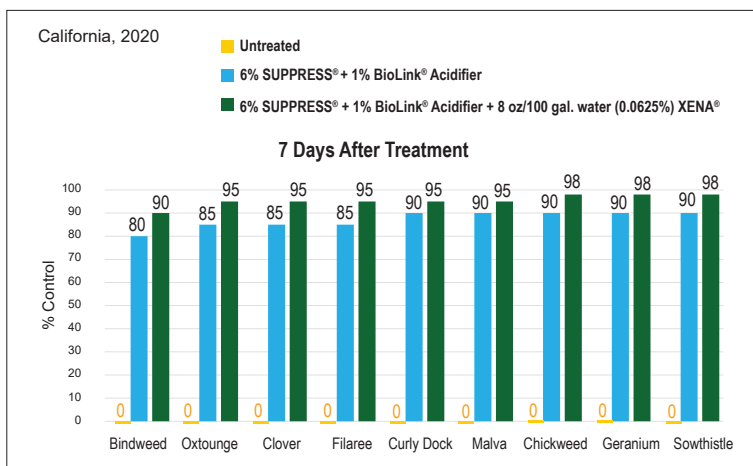


Figure 2: Contact angles are often used to assess relative surface tensions in solutions. Decreased contact angles are highly correlated to decreased surface tension, and therefore increased spread or contact. All frames are of a 5 ul drop dropped onto Parafilm® M from a maximum height of 5 mm. Parafilm M was used to simulate a leaf's cuticle. The mean of the two calculated contact angles for each droplet, in degrees, are indicated in the upper left quadrant of each frame. A: distilled water, B: 4 oz./100 gal XENA Spreader-Sticker, C: 10 oz./100 gal XENA Spreader-Sticker. All treatments were statistically significant compared to distilled water to a 95% confidence level.

### XENA® Spreader-Sticker Improves Efficacy of SUPPRESS® Herbicide EC Large Established Weeds in Almonds



XENA® is a registered trademark of Westbridge Agricultural Products.

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