



**TetraCURB™**  
CONCENTRATE



**MITICIDE-INSECTICIDE + REPELLENT**

**Broad-Spectrum Smart Blend  
biopesticide for all crops**



|  **CROP TECHNOLOGIES**

**CROP PROTECTION**



TetraCURB™ Concentrate is a botanical oil-based contact miticide-insecticide that effectively controls and repels a variety of common field and greenhouse pests with a zero-hour restricted entry interval (REI) and zero-day pre-harvest interval (PHI). TetraCURB Concentrate is an emulsifiable concentrate, smart blend of food-grade ingredients that includes soap, emulsifier, and rosemary oil as the active ingredient in high concentration (50%). Unlike most commodity horticultural oils, such as neem or mineral oils, the rosemary oil is extracted from our proprietary lines of rosemary plants that are rich in targeted active molecules for consistent efficacy. The unique formulation provides excellent spread and leaf coverage and also delivers fast-acting knockdown of the pest population without harming the plants and crops. TetraCURB Concentrate is an indispensable tool for growers who seek an environmentally friendly biopesticide to include in their Integrated Pest Management program to help keep plants, crops and profits healthy.

## INDISPUTABLE PRODUCT QUALITY

As a leader in the ingredient manufacturing industry for human and animal health and nutrition, Kemin has identified and cultivated plants, especially rosemary, that naturally produce molecules with high phytochemical actives and functional benefits. Kemin Crop Technologies discovered new applications for the horticulture market. By being one of the most vertically integrated suppliers of rosemary-based ingredients, Kemin ensures that every batch of product is consistent, and free from contaminants, so customers can expect the consistent efficacy every time they purchase Kemin products. Furthermore, Kemin follows rigorous quality control (QC) testing. Our raw materials are reviewed for quality parameters, ensuring that all products that leave our facilities meet our QC criteria and that the active ingredients are present. That's why TetraCURB Concentrate provides proven mitigation of mites and small, soft-bodied insect populations with consistent performance.



*The primary ingredient is the Kemin proprietary rosemary oil*

## FEATURES AND BENEFITS

- Smart blend: Soap + emulsifier included in the formula
- REI = 0-hour, for the safety of workers
- PHI = 0-day, may be applied to crops at any time up to and including the day of harvest
- Broad-spectrum control of mites and small, soft-bodied insects
- Target nymph and adult stages
- Quick knockdown
- Labeled for use on all plants and food crops
- MRL exempt
- No phytotoxicity observed
- Essential for a strong IPM program
- Minimal PPE

## FORMULATION

### Emulsifiable concentrate.

### ACTIVE INGREDIENTS

Rosemary Oil ..... 50%.

### KEY TARGET PESTS CONTROLLED

- Mites, such as two-spotted spider mites.
- Small, soft-bodied insects, such as aphids and whiteflies.

### SITES FOR USE

For commercial use on a broad range of high value, specialty crops, including non-food and food crops, indoor and outdoor production systems.

### RESIDUE

TetraCURB Concentrate is exempt from food tolerance requirements (no MRLs, Maximum Residue Limits); the amount of pesticide residue expected to remain on food products as the result of a TetraCURB Concentrate application when used according to label directions is minimal.

### PACKAGING SIZES



1 Gallon (case of 4)



2.5 Gallons (case of 2)

Larger packaging sizes are available upon request. Contact us for more information.

## MODES OF ACTION

### TETRACURB™ CONCENTRATE IS A SMART BLEND FOR FULL MITE AND INSECT CONTROL

Leveraging our understanding of plant science and pest management, TetraCURB Concentrate Smart Blend formulation acts through multiple modes of action to target adults and nymphs, resulting in quick knockdown and high mortality.

#### ROSEMARY OIL

##### PARALYZER + REPELLENT + SUFFOCANT

Rosemary oil targets the octopamine receptor in mites and insects to disrupt their nervous system, causing avoidance behavior, paralysis, and suffocation.

Rosemary oil components are octopamine receptor agonists with neurological activity:

- Contact exposure overstimulates neurons and induces paralysis.
- Vapor exposure induces hyperactivity and avoidance behavior, thus providing repellence.
- Ability to suffocate by blocking air from entering the spiracles.

##### CONSISTENT EFFICACY

#### EMULSIFIER

##### WETTING AGENT

The emulsifier allows for uniform product contact across the plant surface. This provides maximum product efficacy of the action with minimum phytotoxicity.

##### ECONOMICAL SOLUTION + TIME-SAVER

#### SOAP

##### DESICCANT

The soap disrupts cuticular waxes of the insect allowing rosemary oil to quickly penetrate and induce water loss in pests, resulting in desiccation and death.

##### QUICK KNOCKDOWN

## TETRACURB KILLS INSECTS

### TETRACURB CONCENTRATE HELPS GROWERS OVERCOME PEST RESISTANCE

Because the TetraCURB Concentrate smart blend provides unique modes of action, it is more difficult for small, soft-bodied insects and mites to develop pesticide resistance. When added in an Integrated Pest Management plan, our crop protection agent is a natural, sustainable alternative approach to managing pests, helping mitigate pest population pressures and pesticide resistance.

**For good pesticide resistance management practices growers should spray two to three applications that are five to seven days apart, and then alternate to a pesticide with a different mode of action.**







## DIRECTIONS FOR USE

### APPLICATION RATES

- Preventative to low infestation: Lower rate of 32 fl. oz. /100 gallons of water (0.25%).
- Moderate to heavy infestation: Higher rates of 64 - 256 fl. oz. /100 gallons of water (0.5%, 1%, 2%).

### APPLICATION TIMING

- Spray at any time during the growing season. We recommend applying the product at the beginning of a crop cycle.
- Apply when pest population first appears and before the economic threshold is reached.
- Apply in early morning or late afternoon when the temperature is below 90° F.
- For best results, use in an IPM program 5 to 7 days apart (minimum of 2-3 applications over 2 weeks).

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

*When mixing, applying, or handling product wear required appropriate PPE, that include but not limited to safety glasses, long sleeved shirt, pants, protective footwear, and chemical-resistant gloves.*

### MIXING INSTRUCTIONS

TetraCURB Concentrate is a liquid emulsifiable concentrate and must be diluted with water before using. Shake well before using. Use dilution immediately. Do not store diluted solution.

Before mixing and applying TetraCURB Concentrate, thoroughly clean the tank and spray equipment, spray boom and all nozzles. For best results:

1. Fill half of a clean tank with clean water and start tank agitation system.
2. Add the appropriate dosage of TetraCURB Concentrate to tank, while continuing constant agitation.
3. Fill the tank with the remaining amount of needed water.
4. Mix to obtain a homogenous mixture. Maintain agitation until solution is used.

## APPLICATION DIRECTIONS



**Spray application:** Use TetraCURB Concentrate as a foliar spray. Spray the mixture thoroughly to the top and the underside surfaces of all leaves to ensure complete and uniform coverage until runoff. Apply TetraCURB Concentrate using traditional spray equipment such as, but not limited to, high volume sprayers, booms and hydraulic-air assist equipment.



**Dip application:** Make appropriate dilution of TetraCURB Concentrate to fill container that allows for full submersion of clippings to be treated. The suggested dip rates are 32-64 fl. oz. /100 gallons of water. Fresh TetraCURB Concentrate solution should be prepared for every 3000 clippings. The TetraCURB Concentrate diluted solution should be used immediately and not stored. Submerge clippings completely (30-120 sec) and provide gentle agitation to ensure complete coverage. Remove the clippings from the solution and allow excess solution to drain as needed.



**With beneficial insects:** If a grower is working with beneficial insects, our team of experts can help develop a customized IPM program.

### COMPATIBILITY OF SPRAY MIXTURE (TANK MIXES)

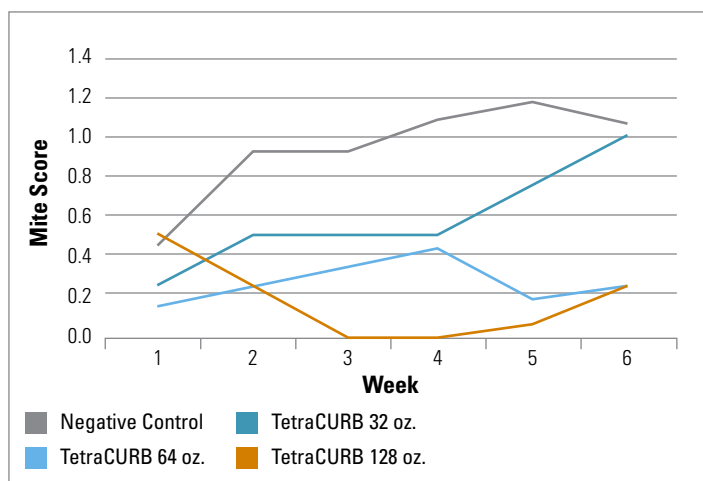
Limited compatibility testing has been conducted for TetraCURB Concentrate with other commonly used chemistries. As such, tank mixing or use of TetraCURB Concentrate with any other product shall be the exclusive risk and responsibility of the user. If you plan to mix TetraCURB Concentrate with other products, always check the physical compatibility first by performing a compatibility test. Test the mixture on a small scale before making large-scale applications. Consult specific product labels for additional information.

## TETRACURB™ CONCENTRATE EFFICACY ON TWO-SPOTTED SPIDER MITES

### Greenhouse trial on African Marigold (*Tagetes erecta*) TL-16-00051



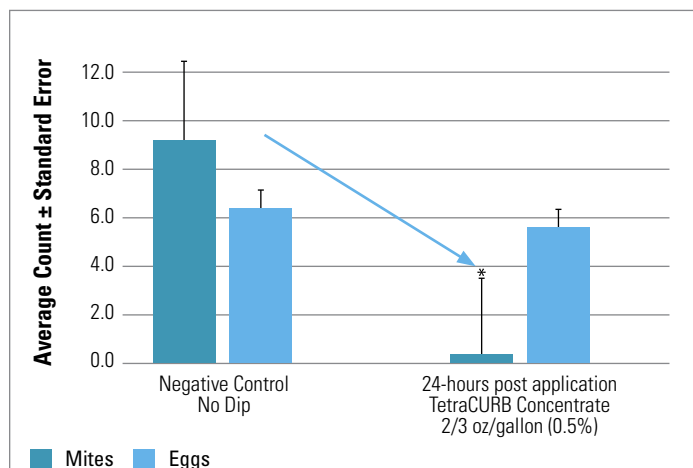
Photo of side by side marigold flowers (left: negative control, right TetraCURB Concentrate treatment) in greenhouse after six weeks.



Mite score collection ranges: 0-10 mites = 1, 10-50 mites = 2, 50-100 mites = 3, and >100 mites = 4.

### Greenhouse trial on Blue Fan (*scaevola aemula*)

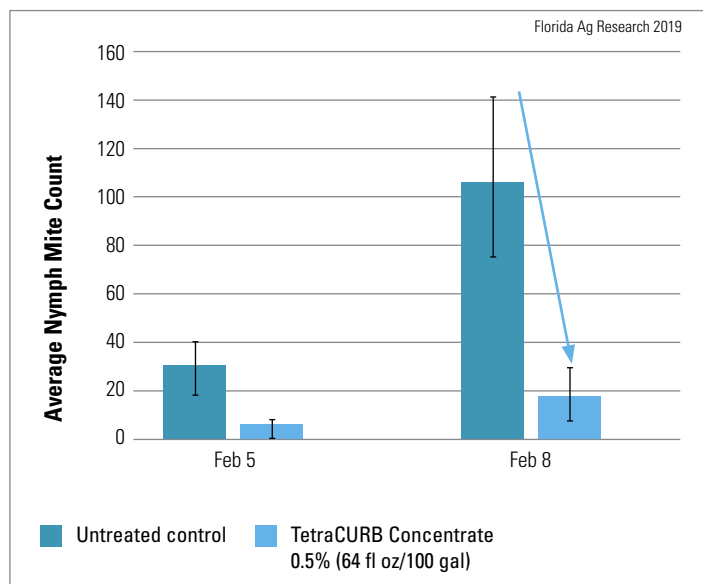
#### Dip Application TL-18-00007



**+90% MORTALITY**  
ON ADULT MITES AFTER 24 HOURS

### Field trial on Strawberry (Sensation variety) TL-19-17579

Single weekly foliar spray. Mite count 48 hours after each treatment.

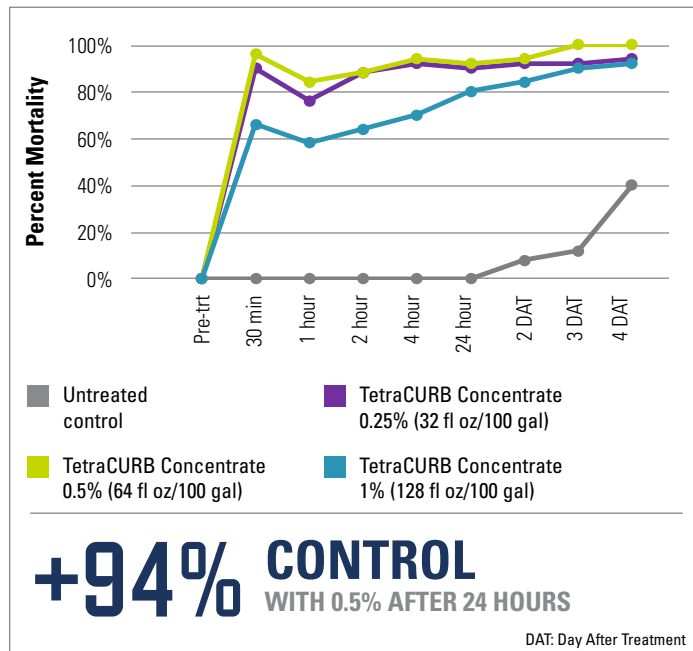


**83% CONTROL**  
AFTER SECOND TREATMENT

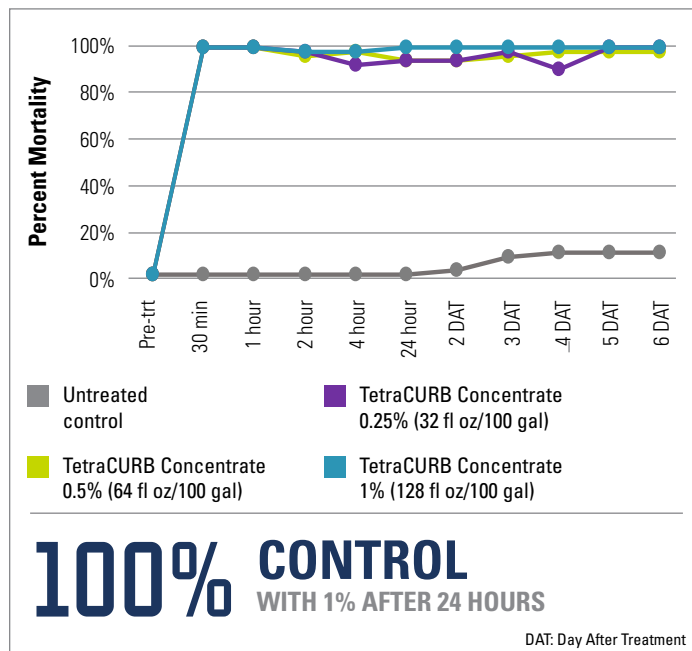


## TETRACURB™ CONCENTRATE EFFICACY ON SMALL, SOFT BODIED INSECTS

Potato Aphid, adult Bioassay SD-19-21459



Silverleaf Whitefly, adult Bioassay SD-19-21459



## CROP SAFETY (PHYTOTOXICITY)

Due to the ever-changing varieties of plants, testing on all plants and crop varieties is not feasible. To ensure that TetraCURB™ Concentrate is compatible with the array of cultivars under your specific conditions, test the product on a small scale and observe for phytotoxicity before making large-scale applications. Do not apply to stressed plants or crops when the temperature is 90°F or above.

### 2% TetraCURB Concentrate sprayed on strawberries

Photos before application and 24-hours after application WP-18-320



Before



After

### *Torenia Blue* dipped in a 2/3 oz/gal TetraCURB Concentrate treatment solution

Photos of before and after 24-hours after treatment TL-18-00007



Before



After

**EXCELLENT SPREADING WITH  
NO PHYTOTOXICITY OBSERVED.**

## PREMIUM TECHNICAL SERVICE

Beyond serving as a responsible ingredient manufacturer, Kemin has a team of technical service managers and research development experts who are incredibly knowledgeable and assist as needed for support on trials, direction for use, and the most efficient application rates in an integrated pest management program.

Our team of technical experts quickly guides growers with best practices and insights to ensure they are receiving the maximum value from our products, and ultimately, a successful profitable operation.

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*FIFRA 25(b) Exempt pesticide: This product has not been registered by the United States Environmental Protection Agency. Kemin Industries, Inc. represents that this product qualifies for exemption from registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Intended for commercial use. Always read and follow the entire label direction before use. Use strictly in accordance with precautionary statements and direction. Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and IPM recommendations for the specific site and pest problems in your area. TetraCURB Concentrate is not registered, or authorized for sale in all states. Consult your Kemin representative or your state regulatory representative for approval of this use in your state, specific applications and labeling.*

*Shutterstock image: shutterstock\_1160545375, IMG-KCT-00228, shutterstock\_1006053763*

*For non-emergency Kemin product inquiries, please call Customer Service at 1-800-752-2864 between the hours of 7 a.m. - 4:30 p.m. Central Standard Time. Monday - Friday.*

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