



# An Overview of Western Flower Thrips Management

By D. Casey Sclar, Ph.D

**W**estern flower thrips are very difficult to control, particularly in greenhouse situations. Thrips are found in many crop environments, both indoor and outdoor, and can survive the harshest winters in the Northeast. The most common months that thrips are problematic in greenhouse crop environments are from May through late October, although they may be present 365 days per year, infesting many greenhouse crops.

## THRIPS BIOLOGY

The pest's biology includes several stages that are difficult to contact. Eggs are laid in leaf and/or flower tissue, while nymphs I & II often feed in flower heads as well as leaves. Nymphs III & IV are non-feeding, immobile stages, which take place in the soil and probably in flower heads as well as any other protective location. Adults emerge from this stage and feed on leaves and flowers. Female thrips may reproduce without fertilization from males, and in peak summer months, an entire generation may

occur in as little as 15 days. Development time is longer in winter months (as long as 45 days).

The pest's diet is variable. It can survive and reproduce on other insects and pollen in addition to or as a supplement to leaf and flower tissues. Particularly attracted to pollen sources, thrips will feed extensively on flower tissues and degrade flower quality. Reduced length of bloom and flower tissue damage is often the result. In addition, they transmit (vector) the tospoviruses Tomato Spotted Wilt Virus (TSWV) and Impatiens Necrotic Spot Virus (INSV) to more than 400 species of desirable ornamentals.

## CONTROLLING THRIPS

Scouting and monitoring, particularly during peak season, are absolutely necessary to ensure proper detection of thrips before populations reach damaging levels. This may include the use of sticky cards (blue or yellow) or direct visual observation through tap sampling or blowing a gentle stream of warm air into flower heads. Reliance on any one of these methods alone is

inadequate, as thrips are notoriously less conspicuous on cloudy and cool days. For example, thrips may be very active during early spring on susceptible host plants but will not move in great numbers to sticky cards of any color.

A variety of biological and cultural controls have been attempted, and there are always ongoing investigations in these areas for the management of this pest. However, the use of pesticides is often necessary to keep thrips populations below damaging threshold levels. Several different pesticides are currently used for thrips control and each has its own unique attributes. The table below discusses some of these in detail. GPN

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Table 1: Selected\* Foliar Insecticides Which May Be Effective For Western Flower Thrips Control

Product	Active Ingredient	Chemical Class	10 gal	25 gal	REI
<b>Adept 25W</b>	Diflubenzuron	Insect Growth Regulator (IGR)	0.4 oz.	1.0 oz.	12 Hours
Although not specifically labeled for thrips, some researchers believe this product may be effective on thrips when used for other pests in combination with Botanigard ES. The current label prohibits application to poinsettias, hibiscus, and Reiger begonia due to phytotoxicity.					
<b>Avid 0.15 EC</b>	Abamectin	Macrocytic Lactone	0.4-0.8 fl. oz.	1.0-2.0 fl. oz.	12 Hours
Not specifically labeled for thrips but label changes are expected. Labeled for spider mites (low rate) and leafminer (high rate). Very good residual mite control, due to local ("foliar" or translaminar") systemic action. Has good thrips activity, particularly against immature stages.					
<b>Azatin XL</b>	Azadirachtin	Botanical	1.2-1.6 fl. oz.	3.0-4.0 fl. oz.	4 Hours
Naturally occurring IGR with some repellency effects. Sometimes included as a tank mix for control of immature stages. A useful tool for maintaining low thrips populations.					
<b>Botanigard ES</b>	Beauveria bassiana	Fungus (Biological)	3.2-9.6 fl. oz.	8.0-24.0 fl. oz.	12 Hours
Also sold as Naturalis -O (although differences do exist in formulation) - Best for maintaining low populations, not for eradicating outbreaks					
<b>Conserve SC</b>	Spinosad	Naturalyte	0.6 fl. oz.	1.5 fl. oz.	4 Hours
Latest thrips control available, provides excellent knockdown of adult populations. Label limits use to no more than 3 consecutive or 10 total applications per year in greenhouses due to resistance considerations. Very effective against caterpillars and midges. Will provide adult fungus gnat and minimal mite suppression, but will not control aphids or whiteflies.					
<b>Dycarb 76WP</b>	Bendiocarb	Carbamate	1.2-2.0 oz.	3.0-5.0 oz.	2 Hours
Possesses broad spectrum adult and immature thrips knockdown with some persistence. Will also control aphids and whitefly. Not compatible with beneficial insects and mites. Phytotoxic to ferns and other sensitive plants. May be removed from use as a result of recent FQPA action.					
<b>Duraguard ME</b>	Chlorpyrifos	Organophosphate	2.5-5.0 fl. oz.	6.25-12.5 fl. oz.	12 Hours
Microencapsulated version of Dursban. May provide some thrips control, although it does not significantly affect thrips populations at the present time in Longwood Garden's greenhouses.					
<b>Knox-Out 2FM</b>	Diazinon	Organophosphate	5-10 fl. oz.	12.5-25 fl. oz.	12 Hours
Microencapsulated formulation provides good knockdown and persistence against thrips, with limited protection from phytotoxicity. Only labeled for use on certain ornamental crops. May also be used as a drench for fungus gnat control.					
<b>Mavrik AF</b>	Fluvalinate	Pyrethroid	0.4-1.0 fl. oz.	1.0-2.5 fl. oz.	12 Hours
Broad spectrum pyrethroid with some thrips activity as an irritant and a knockdown agent. Respiratory effects (coughing) to some applicators has been noted, particularly with repeat use.					
<b>Mesurool 75W</b>	Methiocarb	Carbamate	1.6 oz.	4.0 oz.	24 Hours
Formerly sold as Grand Slam. New label will include thrips rates. Currently has a FIFRA 2(ee) registration that must be in the applicator's possession at the time of application. For use only in emergent/high risk situations where thrips populations cannot be tolerated. Also provides slug control. High mammalian toxicity.					
<b>Precision 25 WP</b>	Fenoxycarb	IGR/Carbamate	0.4 oz.	1.0 oz.	12 Hours
IGR action to reduce pest populations. Often tank mixed to reduce immature thrips stages. Best used against whiteflies and fungus gnat larvae, but appears to reduce flareback of thrips populations.					
<b>Orthene TTO</b>	Acephate	Organophosphate	0.5-1.0 oz.	1.33-2.67 oz.	24 Hours
Foliar systemic with thrips activity, but is labeled only for certain crops and may be phytotoxic to plants not listed on the label. Also controls aphids, whitefly, and mealybugs. Strong odor.					

\*Other products labeled for thrips, but not mentioned above include: Attain, Decathalon, Dithio, Duraplex, Fulex, Nicotine, horticultural oils, M-Pede, Marathon (media applications only), Neemazad, Preclude, Talstar and Topcide.



guest editorial

# The Dirt on Marketing to the Consumer

By John Gaydos

**S**o you're thinking about marketing your product directly to the consumer? Committing your company and its employees to this major shift in thinking requires a great deal of preparation, research, and financial commitment. Before you take the plunge, the most important thing to ask yourself is:

**ARE YOU COMMITTED AND SHOULD YOU BE?**

Believe me, there will be times after you've made this decision when this question will take on a very literal meaning.

## WEIGHING THE RISKS

Many a company has changed its target audience or refocused its energies to "create a buzz" directly with consumers. It can be and has been done. The key to making the shift successful for your company is to be prepared and to stay in control. Make sure the transition is tailored to fit your company and its product line. Do your homework and understand what lies ahead. Know that familiar marketing benchmarks will disappear or change beyond recognition. Understand that you will now be forced to consider the total marketing chain. The trade element you once called the "customer" is now only a link to your ultimate customer, the consumer. Your marketing focus must expand.

Perhaps most importantly, realize that the marketing budget and time contribution you once allotted to influence your trade customers will no longer "cut the mustard." Be ready to give more money and more time to impact even the smallest group of end-use consumers. One way or another, you need to evaluate your organization from top to bottom. Are your products, your employees and most importantly you, ready to launch a direct consumer campaign?

## STRATEGIES FOR SUCCESS WITH JOHN Q. PUBLIC

Now that you've been sufficiently scared, let me just say that direct consumer marketing can be extremely effective. If you have a superior product that you can stand behind with confidence, the benefits of marketing to the consumer are limitless.

Once you establish consistent service and quality product performance, consumers will remain loyal and will continually ask for your product. This type of "pull through" marketing strategy is nothing new. Its virtues have long been touted in this industry and others. It just makes sense. Rather than pushing your products down the throats of consumers who could care less, create a demand for your offerings. This demand will influence the entire distribution chain.

In order to create this demand, you must first decide whom you will target with your campaign. What kind of consumer will use your product? Once you zero in on the segment of the population you want, get to know them. Find out how old they are, what kind of education they have, what they eat, where they shop, what they read and watch. The more you know about your audience, the better you will be at targeting your marketing strategies to them.

## LEAVE YOUR MARK

So you know that males ages 25-40 who watch "This Old House" and enjoy chili dogs and light beer are the audience you're after. Now what?

The next step is to create the umbrella that will cover your company and its products: "the brand." Simple, straightforward and hopefully with a name that speaks of the qualities and benefits of your product, the brand is perhaps the most important element in the consumer equation. It is more than just a catchy name and logo. It is a promise to the consumer that your product will live up to its name and the standards that go along with that name. The brand can actually become more important than the corporate founders or mother company. Remember that every product that carries your brand name represents not only your company and its employees, but all the products you have yet to produce and all those you have produced in the past. Don't take this step lightly.

## PLAY IT AGAIN

The target audience is identified and the brand is ready to roll, all you have to do now is expose consumers to the concepts of the brand often enough so they won't forget it. This takes

time. Even with a strong (and expensive) multimedia blitz, it usually takes 2-3 years of exposure to build a national brand image. The returns generated from this media build up can also, unfortunately, be delayed by an additional year or two. But don't get discouraged. Even if it takes a few years, once consumers are clamoring for your product, retailers would be foolish not to carry it.


## BECOME AN EXPERT OR HIRE ONE

Your expertise is poinsettias or plastics, pesticides or pansies, so how do you find the time to run a successful marketing campaign? Well, if you have the budget, hire the professionals. There are enough public relations, advertising and marketing firms out there; find someone you trust, then listen and learn. Hiring an agency, however, doesn't let you off the hook. Stay intensely involved in the creative process and be an active participant in decision making.

If you don't have the budget, identify employees within your company that have an affinity for marketing. Help them to become as versed in marketing as possible. Encourage creativity and strategic thinking. Remember that repetition of image is important; being creative has its place but the number of overall impressions is what counts.

## SUCCESS DOESN'T COME EASY

Marketing directly to the consumer is no easy task, but it can be done. Remember that no matter how much planning, creativity or money is thrown at the brand, it is only as good as the product behind it. Start slow and work toward a goal, knowing that the campaign's impact will most likely take some time.

Go ahead and shoot for the stars. Just know that success comes with planning, dedication and lots of hard work. 

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