

CHASE NEWS

NOVEMBER 2012

VOLUME 11 (ELEVEN)



November Travels and Chase News Update

I am nearing the final stages of a 9-day trip to California to visit some of the people we work with on a continuing basis. Some of our clients have research trials that we help design and evaluate. These range from effects of products on propagation to preliminary treatments for preventing specific diseases (like powdery mildew and rust) in the field. Sometimes, we spend time visiting their key customers. You can see above from left to right:

- Manny Ortiz - Intern from Cal Poly San Luis Obispo working at Ball Tagawa growers in Nipomo, CA.
- Jan Couch, Syngenta Rep and Victor Vasquez at Parkhill in Oklahoma.
- Field harvesting roses in Wasco, CA with Dan Waterhouse from Neuhouse Farms.
- Dudley Davis, owner of Do Rights in Santa Paula, CA and Laura Wulff (head grower, Ball Tagawa Growers).

We have been working with some of these clients for the past 15 years while others are new to us in the past year. We are obviously in the midst of the final stages of the 2012 poinsettia season. I have seen quite a lot of the crop and it

has looked very nice where I have visited. Red (especially Prestige Red) is still the biggest color for mass production of the crop in many parts of the country.

Field trials have been pretty successful to date and I will present some of the most interesting results whenever possible. The work on propagation is especially critical and continues with fungicides (like Pageant from BASF Corporation) and growth promoters including biological products (like EM - effective microorganisms from Teraganix). We also worked with Buzz Uber (Crop Inspection Services in Valley Center, CA) and Dr. Lucia Villavicencio (Director of Center for Applied Horticultural Research in Vista, CA).

Chase News Update

In 2013 you will see a big change in *Chase News*. We will actually be finishing up the final edition in December 2012. But don't worry! We will be putting all of the issues (2002 through 2012) on our website as a subscription searchable database. Watch for news from Mike regarding this new product.

To fill the growing gap due to diminishing extension funding, we have decided to launch *Chase Digest*. This new product will also be monthly and essentially a more extensive, broader-based version of *Chase News*. We will include more information on insect, mite and weed control, industry news and special columns from guest experts. Look for more from Paul Pilon (see page 4 of this issue) too. We hope this new digest will allow more of our research and extension workers from across the US, Canada and elsewhere to get their information to you faster.

The cost of *Chase Digest* will be the same as *Chase News* for the first year and your subscription will automatically roll over into a *Chase Digest* subscription for the remainder of your subscription year.

Please feel free to send me ideas for topics or potential authors or other sources of new information on solving horticultural problems.

In addition, you should be watching for some other new products including webinars, training sessions, podcasts and Youtube videos. Be sure to check out the videos we already on our YouTube channel - chaseagricultural.

Syngenta Closes Diagnostic Lab - HELP!!!!

Since we closed out diagnostic lab almost two years ago, I am often asked where I would recommend sending samples for disease diagnosis. I have tried to avoid answering this question since it is not a one lab type answer in my opinion. Very recently, Syngenta decided to close their lab in Gilroy, CA. They sent out the following letter explaining this decision:

“Syngenta has provided diagnostic plant pathology services for over two years from our Gilroy lab. Thank you for trusting us with your samples. The mission of the plant pathology lab is becoming more project based. Therefore we will no longer receive plant samples for diagnostic purposes.

Our technical team remains committed to assist you with your questions about plant diseases. Please contact your territory manager with any questions.

For your diagnostics needs, we are attaching a list of university plant clinics plus one commercial lab.

These labs all have experience with ornamental crops.

Best regards,
Syngenta Flowers Diagnostic Lab”

They even prepared the table below showing some of the labs across the US that handle diagnosis of ornamental samples. I thought this might be helpful to some of you, too.

I generally suggest choosing a lab in your part of the country or one that works on similar crops. For instance some Texas growers send samples to Florida or Oklahoma labs while those in the northeast would do best to send samples to New York, Michigan and Indiana. I also would add a few to this list prepared by Syngenta.

OK - Jen Olson
Oklahoma State University
(good response time in middle of the country from Texas north).
jen.olson@okstate.edu

FL - Dr. Aaron Palmateer
University of Florida, Tropical
Research and Education Center -
Homestead. ajp@ufl.edu

(excellent on tropicals including ornamentals)

What to do with the diagnosis -

Some of these labs make suggestions of registered products while others do not. Remember that for the most part, the University labs **must** make recommendations based on all products that are labeled in their state and do not rely on their own testing (if they do any) to make recommendations that are most effective.

We offer a consulting/recommendation service that continues to reflect what the trial results show and not simply what is registered. If you have a specific disease problem diagnosed you can contact me for control strategies including preventative and curative programs. These “consultations” usually cost \$100-\$200 depending on how complex the situation may be. As I did with the diagnostic reports from our business, I include color photos (yours or mine) along with the control program I suggest. In case any of this was confusing - I don’t recommend non-registered products either but do recommend the best of them for specific situations.

Plant Disease Diagnostics Labs/ Ornamentals

State	Lab	Address	Phone/ Fax	Website	Notes
IN	Agdia	30380 County Rd. 6 Elkhart, IN 46514	P: (800)622-4342 F: (574)264-2153	http://www.agdia.com/testing-services/index.cfm	Virus/viroid, some bacteria
NY	Long Island Hort Res & Ext Center (Margery Daughtrey)	Long Island Hort Res & Ext Center, 3059 Sound Ave, Riverhead, NY 11901	P: (631)727-3595 (no voice mail) F: (631)727-3611	http://www.plantpath.cornell.edu/labs/daughtrey/index.html	General, only New York
MI	Michigan State Univ Diagnostic Services (Jan Byrne)	Michigan State Univ Diagnostic Services, 101 Center for Integrated Plant Systems, East Lansing, MI 48824-1311	P: (517)355-4536 F: (517)432-0899	http://www.pestid.msu.edu/SampleSubmission/tabid/58/Default.aspx	General
NC	NCSU Plant Disease & Insect Clinic (Mike Munster, Barbara Shew)	NCSU Plant Disease & Insect Clinic, Campus Box 7211, 100 Derieux Place, 1227 Gardner Hall NCSU Raleigh, NC 27695-7211	P: (919)515-3619	http://www.cals.ncsu.edu/plantpath/extension/clinic/submit-sample.html	General; water testing for Phytophthora
OR	OSU Plant Clinic (Melodie Putnam)	OSU Plant Clinic, 1089 Cordley Hall, Oregon State University, Corvallis, OR 97331	P: (541)737-3472 F: (541)737-2412	http://plant-clinic.bpp.oregonstate.edu/submit	General; water testing for Pythium and Phytophthora; Agrobacterium, Rhodococcus
FL	Plant Disease Clinic (Anne Vitoreli, Carrie Harmon)	Plant Disease Clinic, Bldg 78 Mowry Rd. PO Box 110830, University of Florida, Gainesville, FL 32611-0830	P: (352)392-1795 F: (352)392-3438	http://plantpath.ifas.ufl.edu/	General
NY	Plant Disease Diagnostic Clinic (Karen Snover-Clift)	Plant Disease Diagnostic Clinic, Dept. Plant Pathology, 334 Plant Science Bldg., Cornell University, Ithaca, NY 14853-4203	P: (607)255-7850 F: (607)255-4471	http://plantclinic.cornell.edu	General
IN	Purdue Univ Plant & Pest Diagnostics Lab (P&PDL)	Plant & Pest Diagnostic Lab, LSPS-Room 101, Purdue Univ 915 W. State Street West Lafayette, IN 47907-2054	P: (765)494-7071 F: (765)494-3958	http://www.ppd.purdue.edu/PPDL/physical.html	General

Pageant Intrinsic Fungicide and Cold Protection - Paul Pilon

This is the second of a series of articles that covers using Pageant Intrinsic fungicide for plant health purposes. This month I will be covering cold tolerance research with Pageant and how growers may be able to utilize Pageant Intrinsic fungicide for this benefit.

Freeze Events

In 2009 and 2010 I performed a couple of studies where I looked at different application rates and intervals of applying Pageant to various annuals prior to exposing the plants to a cold event. An upright freezer was used to remove the field heat and to provide the freeze event.

Once the field heat was removed, the plants were subjected to four hours with temperatures of 34 to 38° F followed by four hours of temperatures below freezing (28 to 32° F). This procedure was intended to simulate a frost event.

In most instances, the amount of cold injury observed between Pageant treated plants and untreated plants were similar and the benefits of using Pageant to improve cold tolerance appeared inconclusive. However, the main reason for the inconclusive results were likely due to using an upright freezer to deliver the freeze event. The temperature of the air coming out of the air inlet inside the freezer was 15 to 20 degrees below freezing (32° F) and the temperatures along the back wall of the freezer were significantly below freezing. Therefore, injury was observed on all plant varieties and treatments due to where they were physically located inside the freezer during the cold event.

Although, cold injury was observed on all of the varieties tested, an interesting observation was made following the cold event. In most instances, plants treated with Pageant Intrinsic fungicide prior to experiencing temperatures below freezing recovered from the cold stress faster than the untreated plants. This was visually evident as plants treated with Pageant began to resume growth and unfold new leaves earlier than untreated plants.

Cold Protection During Shipping

During the winter in 2010, I performed two trials where I treated liners with Pageant 1-2 days prior to boxing and provided a freeze event, trying to simulate what might occur at a shipping warehouse prior to the plants being delivered to growers. The boxes of plants were put on pallets in a single layer and placed outside where the temperatures were below freezing. It took

several hours for the temperatures inside the boxes to fall below 32° F.

In the first trial, the temperatures inside the boxes were below 32° F for 3 hours and 28 minutes and between 26 to 27° F for 77 minutes. No cold injury was observed on Calibrachoa or Lobelia which were treated with Pageant; there was a slight amount of cold injury present on the untreated plants. A slight amount of cold injury was observed on Lantana and Ipomoea; however, the untreated plants had moderate to severe injury symptoms. The other two varieties in this trial exhibited no injury on the treated or untreated plants.

The amount of cold injury observed was less than expected, many plant varieties didn't exhibit injury symptoms on the treated or untreated plants. After the trial was completed, I learned that the trial plants were all treated with Pageant one week before I made my application; therefore, my untreated control plants were not control plants at all.

With the second trial, the temperatures inside half of the boxes were below 32° F for 125 minutes (with 83 minutes being below 30° F). Under this duration of cold, there were no significant differences between treated and untreated plants as most of the varieties did not have any cold injury or only had a slight amount of injury symptoms following exposure to freezing temperatures.

The remainder of the boxes were exposed to below 32° F inside the boxes for over 8 hours (6 hours and 12 minutes were below 30° F). There was more injury observed with the extended time cold was provided. Five of the eight varieties exhibited similar amounts of injury between the untreated and Pageant treated plants. Pageant treated plants of Lobelia had no injury - untreated plants had slight injury symptoms. Fuchsia treated with Pageant had no injury, compared to moderate injury symptoms on the untreated plants. Although there were moderate injury symptoms on New Guinea Impatiens treated with Pageant, the untreated plants had injury symptoms (right).

Cold damage on New Guinea Impatiens (left) and protected with Pageant (right).

Similar to the observations made following first set of cold studies described above, it was very noticeable that the plants treated with Pageant prior to the cold stress recovered quicker than the untreated plants.

Cold Summary

Based on what I've learned from these trials and combined with observations I've made where growers have used Pageant prior to cold events, I have seen enough to tell me that Pageant Intrinsic fungicide does improve ability to tolerate freezing temperatures for many plants and in certain situations. However, it can be hard to duplicate cold events since no two freezes are identical (they differ in temperature and duration). Additionally, plant genetics and other environmental and physiological factors may also affect the results.

Growers should be aware of the ability of Pageant to improve a plants ability to tolerate cold temperatures and how it helps plants recover from this stress. However, there are no guarantees that it will work in every situation. Therefore, keep this tool in your back pocket, use it as an insurance policy that may or may not provide the amount of protection you need, and know that even if cold injury is experienced that Pageant will help the plants to recover in the days that follow.

From what I have observed, it is best to spray Pageant Intrinsic fungicide at 12 oz per 100 gallons at least 1 to 2 days before the cold event. Applying Pageant in this manner would also be a good strategy to protect plants when moving them from greenhouses to outside beds or when removing the poly from Quonset or cold-frame structures in the spring.

Paul Pilon

Perennial Solutions Consulting
paul@perennialsolutions.com



Flaming Soil to Control Boxwood Blight

Cylindrocladium Symptom Gallery

The first known case of boxwood blight in the US was reported in September 2011. This new disease of *Buxus* spp. is caused by *Cylindrocladium pseudonaviculatum* (= *C. buxicola*). The disease has been reported in ten states (Connecticut, Massachusetts, Maryland, North Carolina, New York, Ohio, Oregon, Pennsylvania, Rhode Island, and Virginia) and two Canadian provinces (British Columbia and Ontario). Boxwood blight causes defoliation of infected plants from 10 to 80%. The fungus grows readily in the infected leaves and stems and makes a darkened mycelia (webbing) and microsclerotia which allow the pathogen to overwinter for long periods of time without the host being present. Microsclerotia of *Cylindrocladium* spp. in ornamental nurseries have been documented in other diseases and are important in planning a control strategy. Microsclerotia have been shown to remain viable in soil for as many as 15 years.

Controlling some other diseases with flaming has been effective. Examples of these diseases including *Verticillium* spp. in soils by flaming potato and pepper-mint stubble after harvest and apple scab inoculum by flaming leaves on orchard grounds. The researchers decided to test the ability of flaming using a propane push flamer to reduce viable microsclerotia of *C. pseudonaviculatum* in the upper layer of soil.

Soil flaming treatment

A propane push flamer (Red Dragon, La Crosse, KS) was used to scorch leaf material colonized with *C. pseudonaviculatum* left behind on the soil surface. The flamer was operated by hand over the clay-loam soil which was mostly free of weeds and other organic matter except for visible boxwood leaf litter. The soil was treated until visible leaf and plant debris were no longer visible.

Comparison of viable microsclerotia levels in non-flamed versus flamed soil. An overall reduction in CFUs (colony forming units) of *C. pseudonaviculatum* was observed in flamed samples. Untreated soil samples averaged 25 CFUs/10 g soil compared to only 4 CFUs/10 g soil that was flamed.

These results support the hypothesis that flaming soil surfaces can significantly reduce levels of inocula of *C. pseudonaviculatum* in the upper layer of soil. The majority of *C. pseudonaviculatum* inocula is present in the upper 5 cm of soil and is directly associated with leaf material. Great care should be taken to destroy or remove infected leaf debris as soon as *C. pseudonaviculatum* is detected on a site before leaf debris are blown by wind, buried by erosion or begin to decomposed

This article was originally published online: Dart, N. L., Arrington, S. M., and Weeda, S. M. 2012. Flaming to reduce inocula of the boxwood blight pathogen, *Cylindrocladium pseudonaviculatum*, in field soil. Online. Plant Health Progress doi:10.1094/PHP-2012-1026-01-BR.



Cylindrocladium cutting blight on bottle brush



Cylindrocladium leaf spot on myrtle



Cylindrocladium cutting blight on pomegranate



Cylindrocladium petiole spots on Spathiphyllum

Control of New Stinkbug Pests

Over the past decade, two new stinkbugs have become pests in different parts of the US. The web is a great source of information on these two stink bugs but I thought I would save you a little effort and summarize some of what I found on them.

The brown marmorated stink bug (BMSB - *Halyomorpha halys*) was accidentally introduced into the US from Japan or China in 1998 when it was found in PA. It was also found in New Jersey in 2000 and has since been reported from Delaware, Connecticut, Maryland, West Virginia, Virginia, Tennessee, North Carolina, Ohio, Indiana, Michigan, Minnesota and Oregon. As of November, 2011 it had spread to 34 US states. This year I saw it in Pennsylvania and also in my backyard in central Arizona.

The Bagraida bug (*Bagraida hilaris*, also called painted bug and harlequin bug) has been found in California and Arizona where it was first reported in 2008. It is native to Eastern and Southern Africa, Egypt, Zaire and Senegal. The global distribution of this pest also includes southern Asia and southern Europe (Malta and Italy).



It is a major pest insect of brassicaceae (cabbage, kale, broccoli, cauliflower and Brussel sprouts). Feeding damage shown to the right. It also has been found in papaya, maize, potato, cotton and legumes as well as a number of weeds and grasses.

Hosts of the BMSB include a variety of fruit and shade trees, as well as other woody ornamentals and even legumes. Known food sources include: pear, peach, apricot, cherry, mulberry, persimmon, and apple trees; *Buddleia*, honeysuckle, *Rosa rugosa*, and abelia shrubs; raspberries and grapes; and legumes including soybeans and beans.



Brown marmorated stinkbug (left) and Bagraida bug (right)

I read through some research on Bagraida bug control with insecticides by University of Arizona Entomologist Dr. John Palumbo. His studies on Bagraida bug control on broccoli indicate that contact insecticides such as pyrethroids work best for rapid kill of the adults. The most effective products contained bifenthrin (found in Talstar) and also dinotefuran (found in Safari). Be sure to always check labels to make sure the product is labeled for your crops, use site and the pest. In places where the insect does not have much natural vegetation, killing them in the crop may be more effective than where food is plentiful surrounding the crop.

Although products are known to kill adult BMSB, they are not recommended very much. This insect moves into buildings in fall. It has been very hard to control due to its very wide range of plants it feeds on and its mobility where it can over-winter. Adults can live a year. Killing adult BMSB with insecticides does not usually result in good damage control since they easily move in from un-treated areas. The control strategies also warn against overuse of insecticides which might result in resistance in the insect.

I am not aware of any trials on ornamental crops although I have been hearing about growers fighting one or the other of these insects.



Thoughts from Mike

Well I hope everyone had a nice safe Thanksgiving and Black Friday. Speaking of Black Friday, did any of you camp out at your local Best Buy, Target or other campgrounds? I heard if you were one of the lucky 10 or so people first in line, these places were offering their outside electric for you to connect to while in your tent. Think of the mad rush when the doors open, is this "REALLY" a good time? Are you REALLY getting a fantastic deal? Will the particular item(s) be available later after the big rush in a week or so?

This got me to thinking, what a great feeling it would be if the nursery's could experience the the same effect. What would it be like if you had a line of people camping outside the gates waiting to get in bright and early to maybe get a huge deal on trees, ground cover or even just outside decor? What kind of a chain reaction would something like this cause?

Imagine getting over-loaded with orders because the local nurseries couldn't keep something on hand very long. Imagine---Black Friday for nurseries and having commercials to watch and the local news report it on TV and the web for all to see!

Mike



649 E. Cottonwood St., Suite 1
Cottonwood, AZ 86326
(928) 649-0400

www.chaseagriculturalconsultingllc.com

