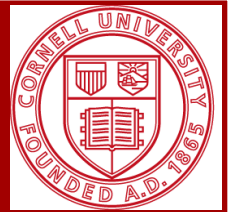




FRUIT NOTES

Lake Ontario Fruit Program

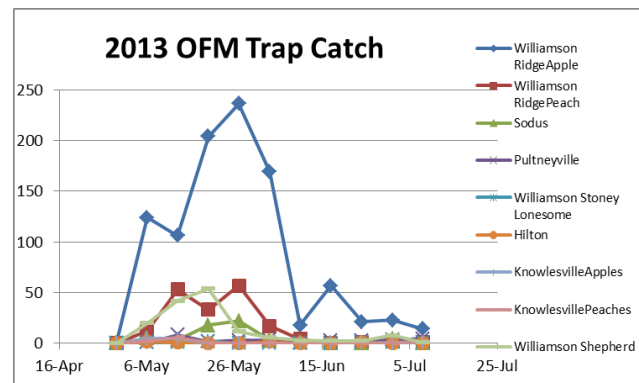
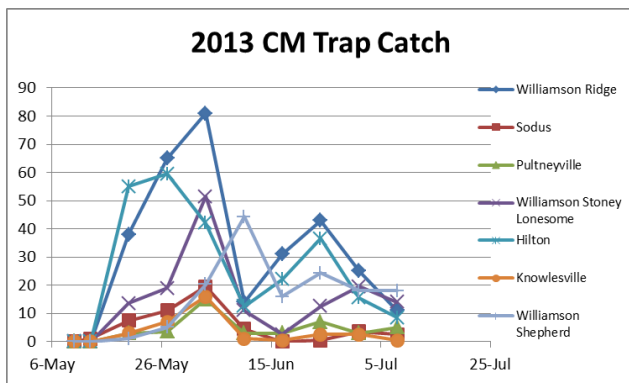


Volume 13 Issue 16

July 10, 2013

Pest Update D. Breth, A. Agnello, D. Rosenberger

Codling moth/OFM – codling moth trap catch numbers are still coming down but many locations with a lot of damage from last season still have counts much higher than the suggested threshold of 5 moths per trap per week. For those orchards, and with the constant rainfall, insecticide residue must be maintained generally on a 10-14 day schedule. Some of these sites we have detected significant fruit infestation. You can see that many of our trap locations have trap counts of <5 moths per trap per week and those sites can now wait until the next generation of egg hatch and time the next insecticides for 1250 DD 50°F (late July to early August) followed by a second spray 10-14 days later. We have accumulated approximately 850 DD 50°F. For orchards with a low population, you can wait until 1350 DD 50°F and treat with one application for the second generation. For orchards with no history of codling moth damage and where trap counts are low all season (<50 moths per trap for season total),



you can just focus at this point on obliquebanded leafroller and apple maggot. Oriental Fruit moth traps counts have also dropped off and the suggested trap threshold is 8-10 moths per trap per week.

Obliquebanded leafroller: Trap counts range from 0 to 89 this week, and we have accumulated about 800 DD 43°F since Jun 6 biofix dates and larvae are getting large. Art Agnello suggested “Delegate, Altacor, Belt, Rimon and Proclaim are appropriate choices, particularly in cases where the larvae are a bit larger, and a B.t. product such as Dipel, or else the IGR Intrepid are also options, but these tend to be more effective when applied against the earlier stages. If you are applying Belt, Altacor or Delegate to control codling moth and oriental fruit moth, they will also be very effective against OBLR at this time. Regardless, we have found that this specific spray is the most critical for preventing fruit-feeding damage at harvest, so put this at the top of your list of priorities if OBLR has distressed you in the past.”

Apple maggot: Art Agnello reports that adults made their first appearance in the Hudson Valley today, and should begin showing up in the other traditional high-pressure sites around the state this week. Stings and larval tunneling would first be detected in early and favored varieties such as Ginger Gold and Honeycrisp, particularly in the Hudson Valley. If you aren't monitoring in specific orchards and haven't yet made preparations for a protective spray against AM (and aren't using Delegate or Altacor for OBLR, both of which have some activity on AM), prudence would suggest attention to this pest. Hanging a few volatile-baited sphere traps on the edge of susceptible plantings can provide valuable



**Cornell University
Cooperative Extension**

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Building Strong and Vibrant New York Communities

Cornell Cooperative Extension provides equal program and employment opportunities. NYS College of Agriculture and Life Sciences, NYS College of Human Ecology, and NYS College of Veterinary Medicine at Cornell University, Cooperative Extension associations, county governing bodies, and U.S. Department of Agriculture, cooperating.

Every effort has been made to provide correct, complete, and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are still possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying any pesticide.

insight on when (and whether) immigrating flies are posing a threat. Growers on a Delegate or Altacor program for leafrollers/internal leps should get some protection against moderate AM pressure. For those not using Imidan in their cover sprays, Assail and Calypso will both provide excellent control of apple maggot as well as internal leps.

Summer disease management notes from Dave

Rosenberger: “This time of year, I would probably be using Topsin M plus Captan, Flint plus captan, or Inspire Super plus captan. Inspire Super might be OK alone, but I think that it will prove to be a bit weak on black rot when used alone. For sooty blotch and flyspeck, my data suggests that Inspire Super will be as good as or better than Pristine. Pristine in my tests where both products were used alone (no captan) was better than Inspire Super for rot control under high pressure, and that is why I prefer to see Inspire Super applied with captan rather than alone. If growers will be tank-mixing fungicides with plant growth regulators, then captan in that mix may lead to some leaf spotting under the hot conditions and/or when applied to lush foliage after a week of rain. An alternative would be to Ziram instead of Captan where there are concerns about phyto potential from Captan in spray mixes. However, I suspect that, for rot control, one would need 2 lb of Ziram to provide control equivalent to 1 lb of Captan 80W. Thus, in summer sprays where Captan or Ziram are used in combinations with Topsin M, Inspire Super, Flint, or Pristine, I would suggest that Captan-80 in those combinations should be applied at 2 or 3 lb/A whereas Ziram should be applied at 4 to 6 lb/A to get the same levels of rot control. Lower rates of contact fungicide (Captan, Ziram) should suffice where black rot pressure is low to moderate, but higher rates will be needed anytime that bitter rot is a significant threat because Topsin M provides virtually no control of bitter rot, activity of Inspire Super is questionable, and neither Flint nor Pristine are 100% effective against bitter rot when used alone.

I still question whether using Inspire Super during summer will push scab populations to greater levels of DMI resistance, but Kerik has two years of data suggesting that it will not. Certainly, for growers who have orchards with fully DMI-resistant scab, Inspire Super should be considered as a top-notch material for sooty blotch and flyspeck control. Growers who feel that they are still getting scab control out of Rally or Inspire Super may want to use other alternatives during summer.”

Every effort has been made to provide correct, complete, and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are still possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying any pesticide.

Fire blight please? Debbie has been collecting quite a few samples of fire blight across the region and detected a new location for strep resistance. Although Kasumin is supposed to get a SEC 3 EPA label, in my opinion, it is still very slow to come and we need to document and prepare for application for a Sec 18 label for 2014. In order to do that, we need economic damage assessments due to fire blight and need to continue to document where strep resistance is present. Please call Debbie at 585-747-6039 so we can collect samples before you try to cut it all out. This is a priority this season! In new plantings, if you are already seeing fire blight infections, use Apogee to shut down growth and harden off succulent shoots.

Nectria twig blight – This fungal disease is typical in Romes and the orange spore structures are obvious with all this rain. Just a reminder, do not confuse this infection and shoot wilting with fire blight. This disease has been noted in Fuji as well.

Japanese beetles – Japanese beetles have been scare and are just starting to show up in peaches, cherries, raspberries, and other favorite food groups. In peaches, apples (especially Honeycrisp), you can use Assail, or Calypso (apples only), or Imidan, or Sevin. Voliam Xpress for internal leps and leafrollers is also labeled for control of Jap beetles. In raspberries and blueberries being harvested, use Assail (1 day PHI). Other insecticides have a PHI too long for crops being harvested daily- Danitol (3 day PHI), Actara (3 day PHI), Admire Pro (3 days), Triple Crown (3 days), carbaryl (7 day PHI).

Potato leafhoppers: continue to manage these in new apple plantings and in new strawberry plantings using imadocloprid, or other neonicotinoid with potato leafhopper on the label.

Blueberries: Maintain fungicide coverage with these warm rainy weather where you have a history of anthracnose.

Spotted winged drosophila: Still no live catches of adults in traps so far in the Lake Ontario Fruit Region with the exception of one female caught in Ontario County in woods next to blueberries on Jun 11. No other updates have been sited on the SWD blog. Stay tuned.

Brown marmorated stink bug trap catches are very low with only 0-1 here and there.

CORNELL FRUIT FIELD DAY

Thursday, August 1, from 8:00 a.m. to 5:30 p.m

Cornell University will host the 2013 Fruit Field Day at the New York State Agricultural Experiment Station in Geneva, NY. The field day will be composed of two concurrent day-long tours: one of tree fruit presentations and another tour of grapes, hops and small fruit presentations. Fruit growers, consultants, and industry personnel are invited to tour field plots and learn about the latest research and extension efforts being carried out by Cornell researchers in Geneva and Ithaca and on commercial farms around the state. The event will focus on all commodities of key importance to New York's \$350 million fruit industry: apples, grapes, cherries, raspberries, strawberries, blueberries and other berry crops, plus hops.

The lunch hour will feature an address by CALS Dean Kathryn Boor, NYSAES Director Tom Burr, and an announcement of the new names for Cornell's recently released NY1 and NY2 apple varieties. After lunch, equipment dealers and representatives from various companies will showcase their latest products and technologies to improve fruit crop production and protection.

The event will be held on the Experiment Station's Fruit and Vegetable Research Farm South, 1097 County Road No. 4, one mile west of Preemption Road in Geneva, NY. Signs will be posted. Attendees will travel by bus to the research plots to hear presentations by researchers on the work being conducted.

The cost of registration is \$30 per person (\$40 for walk-ins) for all day attendance. Lunch will be provided. **Preregistration by July 29 is required for the \$30 rate, register online at: <http://is.gd/ffd2013>. It is an online app “powered by Certain” and looks very generic like you are setting up an account. You are in the right website to register.** Or use the paper registration form on back of this newsletter.

Tree Fruit Tour

- Apple breeding at Cornell and new varieties in the pipeline
- Precision apple thinning
- Apple mechanization
- Tall Spindle management in years 1-6
- Spray volume for Tall Spindles
- Precision spraying in the orchard
- Fruit russet control on NY1
- CG rootstocks
- Nutrient removal by fruit harvest and maintenance application of fertilizers
- Impacts of glyphosate on apple tree health
- Evaluation of bactericide programs for fire blight management
- Persistent NY nematodes for plum curculio biocontrol
- Peach rootstocks
- Rain protection in cherries
- Pear systems and rootstocks
- Apple scab management in a fungicide resistant orchard
- Impact of glyphosate on apple tree health

Berries/Grapes/Hops Tour

- SWD, a new threat to strawberries and raspberries in NY
- Enhancing pollination and biological control in strawberries
- Soil and root factors in improved blueberry productivity
- Mass trapping and exclusion tactics to control Spotted Wing Drosophila in organic blueberries
- Limiting bird damage to small fruit crops
- SWD trap network in NY
- Day-neutral strawberries and low tunnels
- Training systems for Arandell
- New hops variety trial and pest management trials
- Biology and control of sour rot in grapes
- Precision spraying in the vineyard
- High tunnel raspberry and blackberry production
- A fixed spray system for SWD control in high tunnel raspberries

If you would like to sponsor or exhibit commercial products at the field day during lunch, contact Debbie Breth at 585-798-4265 or dib1@cornell.edu.

Excess Moisture and Soil Nutrient Availability and Uptake: Implications for Analysis and Fruit Quality

Lailiang Cheng

As all of you are aware, we have had plenty of rainfall in the last several weeks. For many blocks, soils are saturated with water. In addition, it has been really warm over the last 2 to 3 weeks. This combination of high amount of rainfall and warm weather has promoted the mineralization of soil organic matter in orchard soils with high organic matter, releasing more nitrogen. The high availability of nitrogen combined with plenty of water has been encouraging vigorous shoot growth. In addition, K and Ca uptake should have been good with plenty of water. However, it should be kept in mind that vigorous shoot growth outcompetes fruit growth for Ca, and K accumulation in the fruit negatively affects fruit Ca level. If the weather stays wet for the rest of the growing season, plenty of water supplies will size the fruit, thereby diluting the fruit Ca level. So, providing enough Ca to fruit is critical for minimizing bitterpit development and other physiological disorders this year, especially for susceptible cultivars such as Honeycrisp, Cortland, Jonagold, Mutsu, and Northern Spy. In addition to having proper soil pH, a foliar Ca spray program is essential for these bitterpit susceptible cultivars. We have been recommending the following Ca spray program: 3 to 4 cover sprays of 1 to 2 lbs of calcium chloride (78% CaCl₂) or its equivalent per 100 gallons (dilute basis) at 14-day intervals, beginning 7 to 10 days after petal fall, followed by 2 additional

sprays of 3 to 4 lbs of calcium chloride (78% CaCl₂) per 100 gallons at four and two weeks prior to harvest. It's important to keep in mind that complete coverage of fruit is essential and more frequent spray is more important than exact timing of spray.

For orchard soils with coarse texture or low organic matter, a lot of the nutrients have been leached out of the root zone, particularly for nitrogen and boron. For these blocks, providing a minimum level of nutrient supply is essential. You can achieve this by multiple application of a small amount of nutrients at each time. Sandy soils and soils with low organic matter are often low in K, and the high rainfall provides an opportunity to apply some K fertilizers, particularly if the trees have a heavy crop this year and last year's leaf K was marginal.

The effects of the wet conditions on leaf analysis results remain to be seen, but we think the vigorous shoot growth will have a dilution effect on leaf nutrient levels, similar to the situation of a light crop year where leaf nutrients tend to be lower compared with a normal crop year (K is an exception). However, most blocks have a full crop this year. We don't know how much similarity we'll get between a light-crop induced vigorous shoot growth and wet conditions-induced vigorous shoot growth.

2013 Apple Harvest Preparation Checklist

A. De Marree

1. Have you prepared a production estimate by variety for each block of fruit and estimated the amount of fruit which needs to be harvested each week of harvest?
2. Have you made arrangements to secure enough pickers to get each variety harvested in a timely manner?
3. Have you prepared your labor camp for occupancy this year and made an appointment to have it inspected? (NYS DOL will be checking for migrant labor camp registrations & **over** occupancy this year)
4. Do picking bag straps and liners need replacement? Are new picking bags needed?
5. Are portable toilets with hand washing stations, paper towels and drinkable water in place?
6. Is there an adequate drinking water supply for EACH picking crew with disposable cups? Are the coolers large enough for pickers to refill their quart and gallon containers? Who is responsible for **cleaning & refilling** the crew's main water supply **each day or morning & afternoon**?
7. Do I need to hire quality control checkers? Is there a job description for quality control checkers?
8. Do I need to hire additional tractor drivers?

9. Have I arranged for trucking?
10. Is there an adequate supply of bin tickets or do I need to order more?
11. What method will I use to track fruit from each picker and each orchard on a daily basis?
 - a. Who keeps track of what each picker picks – do I need to print new forms?
 - b. Are there forms in each truck for truck drivers to record which orchards fruit came from and where it was delivered?
 - c. Do I have a means of reconciling my records with picker records of fruit picked?
12. New employee paperwork: Have I completed the correct paperwork for each new employee?
 - a. Work agreement covering NY and MSWPA requirements or a copy of an H2A work order given to each employee and a copy in employer files.
 - b. I-9 Form
 - c. W-4 Form
 - d. NY 2104 Form
 - e. Housing notification form (if subject to federal MSWPA laws)
 - f. **NY Form LS 309 (02-12) or LS-309S (02-12)** (*Spanish version*) – The form must be in the employee's native language, signed by the employee & filed as well as giving a copy to the employee.
13. Employee forms not required – but make good sense:
 - a. Name, address and phone number of person to reach in event of emergency
14. Have you located and retrieved all bins since last year's crop?
 - a. Have you checked with fruit buyers for your bin allocations and dates for pickup?
 - b. Have bins been cleaned and/or repaired? Is your farm identity legible on each bin? Are there extra bin slats, hardware and hammers readily available for in the field repair? Have repaired bins been moved to the orchards they will be used in?
15. How will bin tags / tickets be fastened to bins? Are staple guns in working order? Are new staple guns needed? Is there an adequate supply of fasteners?
16. Has all equipment that will be used in harvest been serviced? Do seats on tractors & forklifts need replacing?
17. Has machinery been checked for safety – especially if tractor drivers will be getting on and off tractors repeatedly? Are all slow moving vehicle signs in place and visible?
18. Has a communications plan been explained to harvest support workers? How will specific buyer requirements or changes in fruit destination be communicated to those personnel in the orchard managing the harvest?
19. Are hazards in orchards clearly marked? Have you marked irrigation valve boxes to avoid trucks destroying them? Have orchard lanes and ruts been repaired to avoid bruising fruit?
20. Is there an adequate supply of ladders, in the lengths needed AND are they in good shape?
21. Do you have a food safety plan in place? Have you contacted your inspection agency for an inspection?
22. Have employees viewed a food safety & or farm security video? Are all employees aware of their part in food safety and procedures to follow when problems arise?
23. Do you have a plan in place to increase labor efficiency? (reviewing with orchard support staff where picking time has been lost in the past and where gains could be made this season such as reducing bin loading or unloading times, having bins set-up in advance for the next block you will move into, etc.)
24. Are your spray records formatted & printed out for fruit buyers?
25. Are all employees aware of your picking standards and the disciplinary procedures or steps that will be implemented should those picking standards fall short?
26. Do you have posted a set of work rules that have been reviewed with each employee as a part of new employee or new season orientation? Are all employees aware of the farm mission statement?
27. Does each employee know your expectations for a job well done? Do you have written Standard Operating Procedures (step by step checklist) for each job on your farm?

Check out our website for additional recordkeeping forms & regulation summaries at www.fruit.cornell.edu/lof/ under the Business Management and Economics link.

Pay Statements in Excel: If you have Microsoft's Excel on your computer, we have available an Excel workbook which will keep daily piece rate and hourly payroll records as well as print pay statements which meet both H-2A, federal and state labor regulations. Please contact me if you would like a copy.

What You Can Do to Avoid Heat Stress in the Farm and/or Orchard

forwarded by Michael Fargione

We anticipate warm weather conditions that will increase the need for water. Let your hand thinning and sweet cherry harvest crews drink plenty of fluids but avoid caffeine and sugary drinks. Other important points to consider are: (1) Use air conditioning to cool down or go to an air-conditioned building, or open windows and shades on the shady side and close them on the sunny side to try to cool it down, (2) Beat the heat with cool showers and baths, (3) Take regular breaks from physical activity, (4) Avoid strenuous activity during the hottest part of the day (between 11 a.m. and 4 p.m.), (5) Wear loose, lightweight, light-colored clothing to help keep cool, (6) Stay out of the sun as much as possible, and (7) Wear sunscreen and a ventilated hat (e.g., straw or mesh) when in the sun, even if it is cloudy.

Table 1. Department of Health Advisories during a heat wave.

Illness	Symptoms	What to Do
Heat stroke (sun stroke)	<ul style="list-style-type: none"> • Hot, dry, red skin • Rapid pulse • High body temperature $\geq 105^{\circ}\text{F}$ • Loss of alertness • Confusion • Unconsciousness or coma • Rapid and shallow breathing 	<ul style="list-style-type: none"> • Call 911 immediately. • Cool the person quickly. • Bring to a cool place and use a cool bath or sponges, fans and AC. <p>Or</p> <ul style="list-style-type: none"> • Wrap ice packs in cloth and place on neck, wrists, ankles and armpits. <p>Or</p> <ul style="list-style-type: none"> • Remove clothing and wrap the person in cool, wet sheets.
Heat exhaustion	<ul style="list-style-type: none"> • Heavy sweating • Fainting • Vomiting • Cold, pale, clammy skin • Dizziness • Headache • Nausea • Weakness 	<ul style="list-style-type: none"> • Heat exhaustion can quickly lead to heat stroke so if symptoms worsen or don't improve get medical help. • Move the person to a cool place. • Loosen clothes and apply cool, wet cloths to the neck, face and arms. • Have the person sip water slowly. Provide half a glass of water every 15 minutes up to about 1 quart. Stop giving water if vomiting occurs.
Heat cramps	<ul style="list-style-type: none"> • Muscle cramps in the abdominal area or extremities • Heavy sweating • Mild nausea 	<ul style="list-style-type: none"> • Move the person to a cool place. • Apply firm pressure to the cramping muscle. • Gently stretch the cramped muscle and hold it for 20 seconds followed by gentle massage. • Have the person drink some cool water.

FSA Urges Producers to Report Agricultural Losses

USDA-FSA Syracuse, Contact: Virginia Green 315-477-6354 virginia.green@usda.gov

SYRACUSE, July 3, 2013 –NY State Executive Director James Barber for USDA’s Farm Service Agency, urges farmers affected by excessive rains to keep thorough records of all agricultural losses and report losses to their local FSA office. FSA will use damage reports to effectively estimate the overall financial loss caused by recent rain events. FSA will continue working with state and local officials, as well as our federal partners, in an effort to ensure people have the necessary resources to recover from this challenge.

NAP covers non FCIC insurable crop losses caused by natural disasters. For those producers who purchased 2013 NAP coverage and have experienced crop losses, you should immediately file a notice of loss and 2013 FSA-578 Acreage Report with the office. The deadline to file a notice of loss is 15 days from the date of the disaster or when the loss becomes apparent. DO NOT destroy any crop acreage until you have notified FSA and have requested an appraisal on your 2013 un-harvested crop acres. To complete your loss claim you will need to provide FSA with records of your 2013 harvested production. After the appraisal and harvest ends, producers will apply for payment.

If you have crop insurance, please be sure to contact your local crop insurance agent as soon as possible to notify them of possible claims.

FSA administers the Emergency Conservation Program which can provide cost sharing to help restore cropland if funding is available. Producers who sustained debris damage and erosion damage to their cropland due to flooding should report the damage along with estimated dollar amounts to their local FSA Office. Land owners will need to work with their county FSA office to determine eligibility and cost share if funding is available for this program.

Also, please report to the local FSA office any crop, agriculture building damage, livestock loss or forested land damage, due to flooding. FSA will provide information if assistance for these losses becomes available.

To find the USDA Service Center nearest you, please visit <http://offices.sc.egov.usda.gov/locator/app?state=us&agency=fsa>.

For more information about the programs and loans administered by FSA, visit any FSA county office or www.fsa.usda.gov.

USDA is an equal opportunity provider and employer. To file a complaint of discrimination, write: USDA, Office of the Assistant Secretary for Civil Rights, Office of Adjudication, 1400 Independence Ave., SW, Washington, DC 20250-9410 or call (866) 632-9992 (Toll-free Customer Service), (800) 877-8339 (Local or Federal relay), (866) 377-8642 (Relay voice users)

Save the Dates

August 1 – Summer Fruit Tour, NYSAES, Geneva. NY – Full Program and registration in this issue!

Pre-registration is required for the \$30 rate, register on-line at: <http://is.gd/ffd2013>
For sponsorship and exhibitor information, contact Debbie Breth at 585-798-4265 or dib1@cornell.edu.

August 6 – Cornell University Storage Workshop, Ithaca. Full program and registration in last issue (issue 15). DEC has approved 5.5 credits in each of the categories 1a; 1d; 10; 22

Lake Ontario Fruit Program
Cornell Cooperative Extension
12690 NYS Rt. 31
Albion, NY 14411

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- Save the Dates
- Cornell Fruit Field Day – Registration Form

Cornell Fruit Field Day at Geneva

Registration Form, Paper Registration Deadline: July 29, 2013

(Use this registration form only if online registration isn't an option)

Name _____

Company Name: _____

Address: _____

Phone #: _____ E-mail address: _____

Meal choice _____ Chicken _____ Lasagna (check one)

Credit card # _____ Expiration Date _____

Authorization Signature _____

MAIL or FAX registration form, AND fee of \$ 30 (Check payable to "Cornell University") **to:**

Michelle Cowles

630 W. North St.

NYS Agricultural Experiment Station, Cornell University

Geneva, New York 14456

Phone #: 315-787-2274

Fax #: 315-787-2488