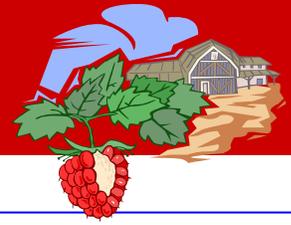


UTAH BERRY GROWERS ASSOCIATION NEWSLETTER

April 2008
Volume 1, Issue



MARK YOUR CALENDARS

UBGA Summer Field Day

In conjunction with the Utah Horticulture Association
Field Day (<http://utahhort.org>)

At the Kaysville Research farm

725 S. 50 W. Kaysville, UT

Wednesday, August 13, 2008

Beginning at 1:00 p.m.

Topics: Raspberry Variety Trial, Blackberry Systems Trial,
Tree Fruit Rootstocks, Orchard Floor Manage-
ment, and Vegetable Research.

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ANOTHER SUCCESSFUL WINTER MEETING

By Taun Beddes, Extension Horticulture Agent, Cache County

The 2008 winter meeting of the Utah Berry-Growers Association meeting was a great success. This year's meeting was held on January 23rd in Provo, and was in conjunction with the Utah State Horticulture Association. Over 60 people from Utah, Idaho and Colorado were in attendance. All speakers were well received.

Dr. Bob Martin, of USDA-ARS, traveled from Corvallis, Oregon and spoke on Berry Virus Detection and Prevention. This is an important issue to all growers in the state. Trying to determine what may be detrimentally affecting our crops can be difficult and Dr. Martin outlined factors for maintaining raspberries and blackberries to prevent virus infection.

Dr. Chad Finn, also of the USDA-ARS, from Corvallis, Oregon, spoke on "New Berry Cultivars: Which Ones Might Be Worth Trialing?" Trying new cultivars is sometimes risky but may offer improved disease resistance, better cold hardiness, ripen earlier or have berries with improved flavor over older cultivars and can give growers an edge in a highly competitive market place. Dr. Finn outlined the quality parameters necessary for a variety to succeed in the Pacific Northwest. It was also informative to find out which berry varieties may not do as well in our unique Intermountain West Climate.

Dr. Chrislyn Particka, Research Director for Sakuma Brothers Farms in Mount Vernon, Washington, gave a presentation titled, "Blackberries 101," in which she spoke on the ins and outs of blackberry production, which varieties could be useful to Utah growers, and strategies to increase the quality and amount of berries produced to increase growers profit margins.

Our own Dr. Brent Black, from USU Extension spoke on, "Acidification and Blueberries." He thoroughly covered what must be done to grow the crop that is not adapted to most Utah conditions due to intolerance of our alkaline soil. Strategies included greatly increasing organic matter in the soil and the use of sulfur burners to acidify irrigation water. All attendees were very well informed and were glad to gain the information.

We appreciate our guest speakers who traveled here to address the members of the Utah Berry Growers Association. We would like to thank those from USU Extension that were involved in organizing the event and making it a great success. We also appreciate the sponsors listed on Page 8, but most of all, those who attended. We hope to see you at our Summer Farm Tour and at next year's winter meeting.

NRCS announcement:

Did you know that the USDA NRCS National Plant Data Center has web links to help small farmers and homeowners improve crop culture and marketing or evaluate various crops for local use? Many of these crops are grown on a large scale in some parts of the country but may be practical on smaller scales in other places. If you want to look at this information go to <http://plants.usda.gov/> and look for Alternative Crops.

Census of Agriculture:

Did you complete your 2007 Census of Agriculture?

The Census form asks questions about farm or ranch operations including land in production, production types and values, and producer characteristics. Small scale (farm) producers, in particular disadvantaged farmers, minority and immigrant farmers, have historically been undercounted by the Census. Since farm programs are implemented based on the number

of farmers counted, getting underrepresented communities counted helps gain access to resources and programs targeted to them. If you received a form but did not complete it, please do so! If you did not receive the Census, call 888-424-7828 and someone will get one to you.

High Tunnel Workshop:

Those of you that attended the 2007 UBGA winter meeting heard Dr. Marvin Pritts of Cornell University talk about his work with high tunnel and greenhouse raspberries. Sanpete County Extension is hosting a workshop on high tunnels for extended season fruit and vegetable production on April 12. Topics will include how to construct a low cost tunnel, fruit and vegetable cropping options, and some recent Utah successes. This workshop will be focused on the central region of the state (Sanpete, Sevier, Millard, Juab, Piute, Wayne counties). We are planning future workshops for other regions. For information on time and location, contact Gary Anderson or Matt Palmer of the Sanpete County Extension office at 435-283-7595 or 7582.

Utah State University now has a fact sheet on constructing a low cost high tunnel. Go to www.extension.usu.edu/htm/publications/. Go to the Horticulture section and then to the High Tunnels category.



We hope you find the information in this newsletter useful. If you have comments regarding information in this newsletter, or would like to see in future newsletters, please contact:

Brent Black, Extension Fruit Specialist
Phone: 435-797-2174
E-mail: blackb@ext.usu.edu

Past Issues of the UBGA newsletter are now available online. Go to extension.usu.edu/publications. Under the Horticulture heading, click on the Fruit link.

PEST MANAGEMENT TOOLS:

Are insects and diseases ruining your small fruits or vegetables? Do you want to learn more about managing pests without the use of a lot of chemicals? Consider subscribing to USU Extension's newest Integrated Pest Management advisory for small fruits and vegetables.

The advisory covers the current insect and disease activity for 6 fruit and vegetable farms in northern Utah, based on insect traps and visual observation. In addition, USU Extension manages 10 weather stations located within commercial tree fruit orchards. The pest activity, combined with the weather data, allows us to provide timely pest treatment recommendations. The advisories' information on insect and disease biology, spray timing dates, and cultural and chemical control recommendations can help with your pest management program.

The goal of the advisories is to reduce pesticide use by emphasizing reduced-risk materials and integrated pest management (IPM). IPM is a way to manage pests using multiple techniques rather than heading straight for the pesticide of choice.

Over 700 subscribers have benefited from our current tree fruit and landscape advisories, and many have been able to reduce the amount of pesticides they apply, or change completely to IPM. The key is that treatments are applied in a timely manner, targeting the correct pest life stage.

To subscribe to the Small Fruits and Vegetables IPM Advisory, or any other advisory, go to www.lists.usu.edu, and scroll to "PestAdvisory." Subscription information, and current and archived advisories are also available at www.utahpests.usu.edu/ipm/htm/advisories.

WSU Pest Management Guide:

The Washington State Pest Management Guide for Commercial Small Fruits is now available online. The print version costs \$4.50 plus shipping, but there is an online pdf version that can be downloaded for free at <http://cru84.cahe.wsu.edu/cgi-bin/pubs/EB1491.html>

GOOD NEWS FROM EXTENSION ENTOMOLOGIST DIANE ALSTON



The miticide, Acramite 50W, has been registered for use on caneberries. When conditions turn hot and dry in the mid to late summer, mites can build up quickly and cause economic crop loss to caneberries. This product can be a useful tool to control mites.

Effect of Water pH on the Stability of Pesticides

By Annemiek Schilder, Department of Plant Pathology,
Michigan State University

Most pesticides are sold in concentrated form and have to be dissolved or suspended in water before they can be applied to crops. This water can come from various sources, such as wells, ponds, rivers, or municipal water supplies. Water naturally varies in the amount of dissolved minerals, organic matter

and pH, depending on its source. The pH is a measure of the acidity or alkalinity of water, which refers to the number of hydrogen (H^+) and hydroxyl (OH^-) ions in a solution. The scale for measuring pH runs from 0 to 14. The lower the pH, the more acidic is the solution, while a higher pH indicates

that the solution is more alkaline. Water at pH 7 is neutral meaning that there are an equal number of hydrogen and hydroxyl ions in the solution. Many areas in Michigan have alkaline water with high mineral/iron content. In addition, the pH of water from natural sources can vary throughout the season.

The pH of water can negatively affect the stability of some pesticides. Under alkaline conditions, alkaline hydrolysis occurs which degrades the pesticide to non-toxic (inactive) forms. In general, insecticides (particularly organophosphates and carbamates) are more susceptible to alkaline hydrolysis than are fungicides, herbicides, or growth regulators. The end result is less active ingredient applied and poor pesticide performance. The degradation of a pesticide can be measured in terms of its half life. For example, if a product has a half life of 1 hour, the amount of active ingredient is reduced to 50% in 1 hour, to 25% in the next hour, to 12.5% in the next hour, etc. Eventually, the pesticide becomes virtually ineffective. The effect of pH on pesticides varies from product to product and is also moderated by buffering solutions contained in the pesticide formulation. Tank-mixing multiple pesticides can modify the pH of the tank-mix.

The table below shows the half life of a number of pesticide products as well as the optimum pH (where known). As you can see from the table, most pesticides are most stable when the spray solution at a pH of about 5. As many water sources are more alkaline than this it may be necessary to adjust the pH of the spray solution. Do not attempt to acidify solutions containing copper-based fungicides, since copper becomes more soluble at a lower pH and may become phytotoxic to crops. In addition, phosphorous acid and other acid-based fungicides should not be acidified since they already have a low pH and lowering it could cause phytotoxicity. On the other hand, acidifying carbonate salt fungicides, such as Armicarb, may render them ineffective.

Check the pH of the water used for spraying pesticides frequently throughout the season. If you know that your water has a pH of 7.5 or greater, consider lowering the pH, especially if you are applying a pesticide that is sensitive to high pH. The fastest

way to determine the pH level of water is to test it with a pH meter or test paper. Paper test strips are the least expensive; however, they can be unreliable and can vary by as much as 2 pH points. A pH meter will provide the most reliable and consistent readings. Meters are available commercially for \$50 to \$400.

Adjust the water pH by using a commercially available acidifying/buffering agent before adding the pesticide. Buffering agents, such as Buffercide, Buffer-X, Unifilm B, and LI 700 Acidiphactant, will stabilize a spray solution at a predetermined pH and keep it at that level. Read and closely follow the directions on the label of the buffering agent and make sure that the solution is stirred well before taking a pH measurement. While a pH of 5 may be optimal, a pH of 6 is usually satisfactory for many pesticides, especially if they will be sprayed out immediately after mixing. Some buffering agents such as pHase5 or PHT Indicate 5 will have a color indicator when the correct pH is achieved. Growers can add this product into the water until it reaches the color that indicates a given pH. For example, 5 = pink or red; 6 = orange; etc. Granulated food grade citric acid may be the most convenient and inexpensive acidifying material and is available in 50-pound bags from suppliers that handle food grade chemicals. Two ounces per 100 gallon has been shown to reduce the pH of tap water from 8.3 to 5.4.

When tank mixing multiple pesticides and/or foliar fertilizers, check the pH after the products have been thoroughly mixed and adjust the pH as needed. Not all pesticides react the same to the pH of the spray water solution and some products should not be used with buffering agents. Always read pesticide labels for any precautions with respect to pH and potential product incompatibility issues. Apply pesticides soon after mixing and avoid leaving pesticide tank mixes in the spray tank overnight.

Additional reading:

“Effect of water pH on the chemical stability of pesticides” by H. M. Deer and R. Beard, Utah State University Extension (online article);

“Midwest Commercial Small Fruit and Grape Spray Guide 2008”, B. Bordelon, M. Ellis, and R. Weinzierl (eds).

“Pesticide wise” by the Government of British Columbia Ministry of Agriculture and Lands (online article);

“Effects of Water pH on the Stability of Pesticides” by F. Fishel, Department of Agronomy, University of Missouri (online article);

“Effects of pH on Pesticides and Growth Regulators” by T. Smith, Dept. Plant, Soil & Insect Sciences, University of Massachusetts (online article);

“The Wonderful World of Roses: Ph and Pesticides” by R. B. Martin, Jr, Pasadena, CA (online article).

Product	Active ingredient	Optimum pH	Half Life / Time until 50% Hydrolysis*
Insecticides/Miticides			
Admire	Imidacloprid	7.5	Greater than 31 days at pH 5 - 9
Agri-Mek	Avermectin		Stable at pH 5 - 9
Ambush	Permethrin	7	Stable at pH 6 - 8
Apollo	clofentezine		pH 7 = 34 hrs; pH 9.2 = 4.8 hrs
Assail	acetamiprid	5 - 6	Unstable at pH below 4 and above 7
Avaunt	indoxacarb		Stable for 3 days at pH 5 - 10
Carzol	formetanate hydrochloride	5	Not stable in alkaline water; use within 4 hrs of mixing.
Cygon/Lagon	dimethoate	5	pH 4 = 20 hrs; pH 6 = 12 hrs; pH 9 = 48 min
Cymbush	cypermethrin		pH 9 = 39 hours
Diazinon	phosphorothioate	7	pH 5 = 2 wks; pH 7 = 10 wks; pH 8 = 3 wks; pH 9 = 29 days
Dipel/Foray	<i>b. thuringiensis</i>	6	Unstable at pH above 8
Dylox	trichlorfon		pH 6 = 3.7 days; pH 7 = 6.5 hrs; pH 8 = 63 min
Endosulfan	endosulfan		70% loss after 7 days at pH 7.3 - 8
Furadan	carbofuran		pH 6 = 8 days; pH 9 = 78 hrs
Guthion	azinphos-methyl		pH 5 = 17 days; pH 7 = 10 days; pH 9 = 12 hrs
Imidan	phosmet	5	pH 5 = 7 days; pH 7 < 12 hrs; pH 8 = 4 hrs
Kelthane	dicofol	5.5	pH 5 = 20 days; pH 7 = 5 days; pH 9 = 1hr
Lannate	methomyl		Stable at pH below 7
Lorsban	chlorpyrifos		pH 5 = 63 days; pH 7 = 35 days; pH 8 = 1.5 days
Malathion	dimethyl dithiophosphate	5	pH 6 = 8 days; pH 7 = 3 days; pH 8 = 19 hrs; pH 9 = 5 hrs
Matador	lambda-cyhalothrin	6.5	Stable at pH 5 - 9
Mavrik	tau-fluvalinate		pH 6 = 30 days; pH 9 = 1 - 2 days
Mitac	amitraz	5	pH 5 = 35 hrs; pH 7 = 15 hrs; pH 9 = 1.5 hrs
Omite	propargite		Effectiveness reduced at pH above 7
Orthene	acephate		pH 5 = 55 days; pH 7 = 17 days; pH 9 = 3 days
Pounce	permethrin	6	pH 5.7 to 7.7 is optimal
Pyramite	pyridaben		Stable at pH 4 - 9
Sevin XLR	carbaryl	7	pH 6 = 100 days; pH 7 = 24 days; pH 8 = 2.5 days; pH 9 = 1 day
SpinTor	spinosad	6	Stable at pH 5 - 7; pH 9 = 200 days
Thiodan	endosulfan	6.5	70% loss after 7 days at pH 7.3 to 8
Zolone	phosalone	6	Stable at pH 5 - 7; pH 9 = 9 days

Fungicides			
Aliette	fosetyl-al	6	Stable at pH 4.0 to 8.0
Benlate	benomyl		pH 5 = 80 hrs; pH 6 = 7 hrs; pH 7 = 1 hr; pH 9 = 45 min
Bravo	chlorothalonil	7	Stable over a wide range of pH values
Captan	captan	5	pH 5 = 32 hrs; pH 7 = 8 hrs; pH 8 = 10 min
Dithane	mancozeb	6	pH 5 = 20 days; pH 7 = 17 hrs; pH 9 = 34 hrs
Nova	myclobutanil		Not affected by pH
Ridomil	mefenoxam		pH 5 – 9 = more than 4 weeks
Rovral	iprodione		Chemical breakdown could take place at high pH
Orbit	propiconazole		Stable at pH 5 – 9
Herbicides			
Banvel	dicamba		Stable at pH 5 - 6
Fusilade	fluazifop-p		pH 4.5 = 455 days; pH 7 = 147 days; pH 9 = 17 days
Ignite	glufosinate-ammonium	5.5	
Gramoxone	paraquat		Not stable at pH above 7
Poast	sethoxydim	7	Stable at pH 4.0 to 10
Princep	simazine		pH 4.5 = 20 days; pH 5 = 96 days; pH 9 = 24 days
Prowl	pendimethalin		Stable over a wide range of pH values
Roundup	glyphosate	5 - 6	
Touchdown	glyphosate	5 - 6	
Treflan	trifluralin		Very stable over a wide range of pH values
Weedar	2,4-d		Stable at pH 4.5 to 7

*The half-life is the period of time it takes for one half of the amount of pesticide in the water to degrade. Other factors than the pH can affect the rate of hydrolysis, incl. temperature, solubility, concentration, type of agitation, humidity, and other pesticides and adjuvants in the mixture.

Keeping it Country

Utah’s working farms, ranches, and forests provide scenic, economic, and environmental benefits. But just as importantly, they preserve a bit of western history, reminding us of our agricultural heritage, teaching kids where food comes from, and giving residents and visitors a reason to leave the city and reconnect with the land. In short, they are **the core of rural community and give Utah a sense of place**. As the state grows, these **agricultural lands** are increasingly threatened with development. Rising land values make it harder each year for **farm families** to pay property taxes and resist sale.

The Trust for Public Land’s Working Lands initiatives helps keep farmers on the land using conservation easements. Conservation easements are legal agreements that restrict forever the type and amount of development allowed on a property. The landowner is paid for the easement, and continues to own and work the land. It is

possible to sell a property under easement, but future landowners **purchase the land subject to the restrictions of the conservation easement or/ are bound by the restrictions of the easement**.

The Trust for Public Land (TPL) has completed conservation easements throughout Utah, ranging from the 48-acre Zollinger Farm and Apple Orchard in Cache County to over 3,000 acres at Co-op Valley Ranch in Iron County. Across Utah, families are seeking help to preserve their beloved farms and ranches. With TPL’s help, they can rest assured that their grandchildren will be able to enjoy the berry farms, orchards, and rolling grasslands they’ve stewarded so carefully.

TPL works with a variety of public and private source to conserve working lands. For further information, visit www.tpl.org/utah, or call 801-333-8526.

NURSERY SOURCES

It is not too early to start thinking about ordering plants for 2008. Following is an alphabetized list of berry nurseries throughout North America. No endorsement or discrimination is intended. Nurseries that wish to be included in future lists should contact Brent Black at blackb@ext.usu.edu. (This list was adapted from one developed by Cornell University. The original list is accessible at <http://www.fruit.cornell.edu/Berries/nurseries/>)

<u>Nursery</u>	<u>Crops</u>	<u>Nursery</u>	<u>Crops</u>
Awald Farms 2195 Shirley Road North Collins NY 14111 phone: (716) 337-7162 www.awaldfarms.com	Red Raspberry Black Raspberry Blackberry	Norcal Nursery/Sakuma Bros. Farms PO Box 1012 Red Bluff CA 96080 phone: (530) 527-6200 fax: (530) 527-2921 www.sakumabros.com	Strawberry Raspberry
Boston Mountain Nurseries 20189 N Hwy 71 Mountainburg AR 72946 phone: (479) 369-2007 fax: (479) 369-2007 www.alcasoft.com/bostonmountain	Raspberry Blackberry Grape Currant & Gooseberry Elderberry	Nourse Farms Inc 41 River Rd South Deerfield MA 01373 phone: (413) 665-2658 fax: (413) 665-7888 www.noursefarms.com	Strawberry Raspberry Blackberry Currant & Gooseberry
Daisy Farms 28355 M-152 Dowagiac MI 49047 phone: (269) 782-6321 fax: (269) 782-7131 www.daisyfarms.net	Strawberry Raspberry Blackberry Currant & Gooseberry	One Green World 28696 S. Cramer Rd Molalla Or 97038-8576 phone: (877) 353-4028 fax: (800) 418-9983 www.onegreenworld.com	Strawberry Raspberry Blackberry Currant & Gooseberry Elderberry
Hartmann's Plant Company PO Box 100 Locata, MI 49063-0100 phone: (269) 253-4281 fax: (269) 253-4457 www.hartmannsplantcompany.com	Raspberry Blackberry Currant & Gooseberry	St. Lawrence Nurseries 325 State Hwy 345 Potsdam NY 13676 phone: (315) 265-6739 www.sln.potsdam.ny.us	Raspberry Currant Grape
Indiana Berry & Plant Co, LLC 5218 West 500 South Huntingburg IN 47542 phone:(800) 295-2226 fax: (812) 683-2004 www.inberry.com	Strawberry Raspberry Blackberry Currant & Gooseberry Grape Elderberry	Ken M Spooner Farms 9710 SR 163 E. Pullyap, WA 98374-1814 phone: (800) 532-5487 (253)-845-5519 fax: (253) 845-5717 www.spoonerfarms.com	Raspberry
Krohne Plant Farms Inc 65295 CR342 Hartford MI 49057 phone: (269) 424-5423 fax: (269) 424-3126 www.krohneplantfarms.com	Strawberry	Strawberry Tyme Farms Inc RR 2 Simcoe ONT N3Y 4K1 phone: (519) 426-3099 fax: (519) 426-2573 www.strawberrytyme.com	Strawberry Raspberry Blackberry Currant
Miller Nurseries Inc 5060 West Lake Rd Canandaigua NY 14424-8904 phone: (800) 863-9630 fax: (585) 396-2154 www.millernurseries.com	Strawberry Raspberry Blackberry Currant & Gooseberry Grape Elderberry	Ty Ty Plant Nursery 4723 US Highway 82W PO Box 130 Ty Ty, GA 31795 phone: (800) 972-2101 (229) 388-9999	Raspberry Blackberry

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