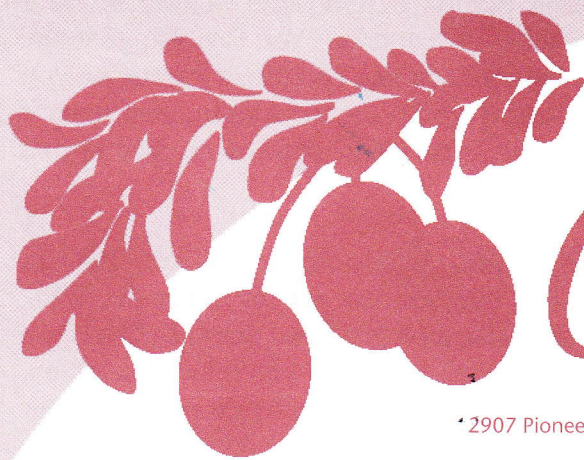




WASHINGTON STATE UNIVERSITY
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CRANBERRY VINE

WSU Long Beach Research and Extension Unit
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June 2014

MEETINGS AND MISCELLANEOUS

Washington Cranberry Summer Field Day:

Pacific Coast Cranberry Research Foundation, Long Beach WA. Friday, July 25, 2014, 9 a.m. to 2 p.m. with 8:30 registration. Three pesticide credits will be given. Agenda is pending.

Other field days: There are no Oregon or BC summer field days being offered this year.

Global GAP: We are offering GlobalG.A.P training for cranberry producers or growers needing certification for export market fresh fruit and/or for satisfying the requirements for independent handlers. The program is scheduled for June 16-19, 2014; 9 a.m. to 4 p.m, North Cove Grange Hall, Grayland WA. There is no charge. The four modules comprising the program are described in the attached flier. To register, call Kim Patten at (360) 642-2031 or email pattenk@wsu.edu. For more details on why you might need this training and the agenda see the flier at the end of this newsletter.

Happy birthday to WSU Extension: In 2014, WSU extension celebrates its 100th birthday. The Morrill Act of 1862 established land-grant universities to educate citizens in agriculture, home economics, mechanical arts, and other practical professions. Extension was formalized in 1914 when the Smith-Lever Act established a partnership between the agricultural colleges and the U.S. Department of Agriculture and provided federal funding annually to each state on a population-based formula to supplement state and county funding.

Our function is to develop practical applications of research knowledge and give instruction and practical demonstrations of agricultural practices or technologies. Next time you see someone working for WSU Extension say thanks, as we thank you for your 100 years of support.

Goodbye Kevin Talbot. After 20 years of serving Ocean Spray and the cranberry industry in the PNW, Kevin is moving on. Thank you for all efforts and passion. You are too young to retire, so may your next career be fruitful.

RESOURCES

Grayland weather station: Thanks to funding from the WSDA Specialty Crop Block Grant Program, we are installing a WSU AgWeatherNet Station in Grayland. This will be a valuable asset for Grayland growers. At this point in time it is not operational, but will be shortly. Go to weather.wsu.edu/ and see if the station shows up on the map. You can access real time information by clicking on it. It is a powerful tool and if you want to utilize all its features, you will need to get a user name.

Pesticide chart: Everyone should be getting this handy pesticide chart that the Cranberry Institute puts out. It is a quick and easy to read guide on what you can and can't use with rates, PHI, etc.

<https://docs.google.com/file/d/0B1yP4fHj8idjcDBZZUc0NWlQX1k/edit?pli=1>.

Pest management guides: The WSU 2014 Cranberry Pest Management Guide is available online as a pdf. (<http://cru.cahe.wsu.edu/CEPublications/eb0845e/eb0845e.pdf>).

Also see updates to the PNW pest management books.

<http://insects.ippc.orst.edu/pnw/insects/>

pnwhandbooks.org/plantdisease/;

<http://weeds.ippc.orst.edu/pnw/weeds/>;

You may also find management guides for other state useful.

http://www.umass.edu/cranberry/pubs/chart_book.html

<http://njaes.rutgers.edu/pubs/publication.asp?pid=E308>

<http://learningstore.uwex.edu/Assets/pdfs/A3276.pdf>

Web Resources shared by Dr. DeMoranville. Dr. DeMoranville provided Washington and Oregon growers with some great information during her visit over the winter. Her presentation and more are accessible on the web. See below for details.

- *Frost tolerance photos and information 2010-2013:*
http://www.umass.edu/cranberry/cropinfo/frost_tol_hist.html
- *The UMass Chart Book:*
http://www.umass.edu/cranberry/pubs/chart_book.html
- *Nutrient Management BMP:*
<http://www.umass.edu/cranberry/pubs/bmps.html>
[choose nutrient management from the list]
- *Factsheets and bulletins from the Cranberry Station collection:*
http://scholarworks.umass.edu/cranberry_factsheets/
- *Cranberry production guide summary:*
http://scholarworks.umass.edu/cranberry_prod_guide/
- *The Physiology of Cranberry Yield:*
http://scholarworks.umass.edu/cranberry_factsheets/16/
- *Nitrogen for Producing Bogs:*
http://scholarworks.umass.edu/cranberry_factsheets/14/
- *Dr. DeMoranville's presentation from the Washington and Oregon 2014 cranberry schools:*
http://scholarworks.umass.edu/cranberry_community_presentations/2/

Software/mobile phone application for cranberry farming

Weather/frost alerts. “ColdSnap Frost Alarm” and “Frost Warning” for apple and android phones use data from various weather sources and then provide you with warnings of your choice. These apps can be customized and users can choose where to source weather data from. They are not a bad back up to have set on your phone. You should also be using WSU AgWeatherNet. You can have the WSU

Long Beach Station or Grayland Station set at a widget to show current data. You can also go to the My AgWeatherNet setting and select the station you want and setting you want for warning and have it email you when that temperature is reached at that station.

Irrigation needs. WSU AgWeatherNet has an irrigation app that you can set for either the WSU Long Beach Station or Grayland Station. Once you select My Irrigation scheduler you select the station, crop and soil type and it will provide you with your irrigation requirements. It is pretty slick and is better than the “irrigate 30 minutes every day” approach.

Unit converter apps. These are useful for converting various units. Categories include speed, time, length, volume, area, power, temperature, fuel consumption and more. Unit apps are transferable to any farming business to aid in identifying input costs, into different units, or helping you convert spray rate for acres to backpack sprayer unit, like converting oz/ac to ml/gal. There are several available to download.

Google Earth App. For cranberry farming it is useful to visualize patterns around sprinkler heads and check for uniformity. For sprinkler patterns the resolution is not good enough off a mobile phone and I prefer the computer.

PEST MANAGEMENT

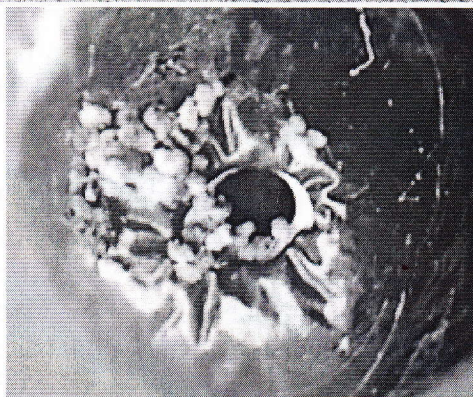
Fruit rot: We are hoping to continue the research by Dr. Caruso on the causal agents of fruit rot in Washington. Funding for 2014 is pending. That research will provide more details on what we need to spray and when we need to spray to minimize pathogens causing field and storage rot. Based on the 2013 findings and other data, here are a few recommendations. Fungicides applied during bloom are required. Don't just rely on two applications at and after fruit set. Bravo may not be the best fungicide for all our fruit rot pathogens. Alternate between types of fungicides to avoid resistance. Don't expect good fruit rot control if the only fungicides you use are Indar+ Abound during bloom; later Bravo and/or Mancozeb will be needed. Avoid Bravo after 7/15 to minimize MRL issues.

Twig Blight Control: The low price of cranberries on the independent market is going to force some growers to minimize expenditures on fungicides. On some farms this can be done without too much consequence. On farms with a history of twig blight infestation, this could be a disaster. To save money and still get twig blight control, use two fungicide applications, with one being an inexpensive off-brand chlorothalonil and the other Manzate. Control of bad infestations requires three applications 10 days apart starting at fruit set.

Vaccinium Berry Fruit Worm: *Lotisma trigonana*, can be a significant pest in fresh fruit (see Figure 1). Egg-laying on cranberries occurs between early July and late August, depending on the year. The larvae infest fruit well into harvest season. Larvae, pupae and moths can be found inside fresh fruit storage bags in retail markets, not a good thing for repeat sales. It has multiple hosts, including salal, blueberry and cranberry, and several overlapping generations. There were bad outbreaks in 2002, 2003 and 2004 and then it disappeared. Some growers in Grayland reported it in 2013, so it is important to keep an eye out for it this year.



Figure 1.
Vaccinium
Berry
fruitworm
larvae,
pupae,
moths, and
damaged
fruit.



Unfortunately, that is easier said than done. There is no easy way to monitor for it until it is too late and has already laid its eggs. Our research on control from a decade ago was based on using multiple applications of an OP insecticide every 2

weeks. We found best control was three applications between mid-July and mid-August. We currently have much better insecticides available with long residues, Altacor and Intrepid. This gives us much better control options. If you noted lots of *Lotisma* moths around your farm last fall and begin to see them this summer, consider using Altacor and/or Intrepid mid -July to early-August.

Fireworm Control: Our 2013 fireworm control studies with Altacor and Intrepid were nothing short of spectacular. The long-term residual control that they offer, up to 3 weeks with Altacor, makes timing of 1st and 2nd generation spray less critical. I strongly advocate for them as superior replacement chemistries to OPs.

Tipworm: This insect has become the new bane of our existence, causing significant crop loss in 2013 on many beds. As of this writing, we do not have any new research results to pass on, but we are conducting a major research effort on methods to improve the IPM program for its management. In 2015 we are likely to have two chemistries in the toolbox that are quite effective, but for 2014 we are left with a choice of Orthene, Sevin, Delegate, Diazinon, Lorsban, and Altacor. The efficacy of each of these varies by method of application. None are overly impressive, but most will provide some short- term control when broadcast-applied just after egg- laying.

All of the insecticides mentioned above have issues. Studies from British Columbia suggest tipworm is resistant to Diazinon. That may or may not be true for Washington tipworm. Orthene and Lorsban have PHI and export issues. Diazinon and Lorsban have restrictions for their use near surface water. Sevin has fresh fruit restrictions. Orthene, Sevin, Delegate, Diazinon, Lorsban are hard on pollinators and should not be applied during bloom.

Altacor doesn't seem to work with chemigation and the efficacy data from Delegate is iffy at best. Hotspots on beds will need to be hand-sprayed with these products if you want to be assured of control. Imidan and Avaunt have not been noted to be effective against tipworm.

Even with a good insecticide, control is still problematic. Timing a spray for egg-laying/hatch is

critical for efficacy, but this timing is much easier said than done. They are too small to easily detect, and by the second or third generation the hatch begins to be asynchronous. If you are lucky, timing of the first generation tipworm spray will have coincided with your first fireworm spray(s). Second and third generations are much more scattered. Examining tips for eggs and brand new larvae using a hand lens is recommended.

Weed control tidbits:

- Dissolve Curio in a small container with water before adding it to your spray tank. Otherwise, you'll never get a uniform application.
- Perennial grasses require multiple applications of grass herbicide, starting early in the growing season to fully control.
- Chemigate Callisto for good pre-emergence control on new plantings. Once weeds are up but still small, broadcast applications are most effective. Once weeds get too big, efficacy of Callisto declines.
- To improve control of St John's Wort or lotus with Callisto, add a ½ to full dose of Curio.
- To improve control of a mixed species of weeds when spot treating with Callisto, add a grass herbicide, like Select.

Plant disease control tidbits:

- Growers with serious cottonball in 2012 or 2013 should use two sprays of Indar or Abound. The first spraying should be done when 10 to 20 percent of the flowers have opened, the second ~5-8 days later as the remaining flowers open.
- Growers with serious twig blight infestation should consider additional hand-treating areas where sprinkler coverage is poor.
- New and young plantings with rapid growth will likely be infested with red leaf spot followed by a secondary infestation of black spot fungus. The combination of these two diseases can do serious damage on young planting. Treat with copper sprays if you see this becoming problematic.

Pesticides:

A new fungicide: Proline 480SC from Bayer Corp is now registered for use on cranberries. It is a sterol demethylation inhibitor fungicide like Indar. It has

broad spectrum activity and has performed very well on fruit rot fungicide trials in Wisconsin, New Jersey and Massachusetts. Plant pathologists have noted that is as good as or better than Bravo (chlorothalonil). It has good activity on the pathogens important in fruit rot in Washington, including *Colletotrichum*, *Coleophoma* *Physalospora* and *Coleophoma*. It is applied at the rate of 5 fluid ounces per acre.

A maximum of two applications is allowed per year. As with other fruit rot fungicides, the most effective spray timing is at full bloom and early fruit set stages. Unfortunately, the MRL for the EU is much lower than the US so export restriction is a problem. According to the CI, those restrictions should be lifted by the 2016 growing season. It is also costly. For fresh fruit growers in the US or Canada, it might be a good option, but check with your handler.

Quinclorac: Export restrictions still apply and it is looking like those will still apply for the 2015 and 2016 growing season.

FARM MANAGEMENT

Late season fruit sizing: Some handlers are now setting fruit size restrictions on processed fruit, with anything <13/32 being rejected. This makes it important to tease out every bit of size from small fruit varieties, like McFarlin. Size is almost entirely determined by genetics and weather. Warm weather during bloom and early growth help promotes larger fruit, hence Washington often has less than impressive fruit size, especially when we bloom late. When fruit are too small to be accepted, it is possible to achieve an acceptable size by leaving them on the vine longer.

Here is what little data we have for late September to October sizing data on McFarlin. In 2012 and 2013 the growth rate increase (by weight) was 0.7%/day and 0.2%/day respectively. Assuming fruit weight translates to fruit diameter, then it would take 4 days to go from 13/32 to 14/32 in 2012 and 15 days in 2013. We don't have as good a data set for sizing after October 7th, but in 2012 it was 0.2%/day. This practice means that to go from 13/32 to 14/32 after October 7th, you would need to wait until October 22nd to harvest your fruit.

In all likelihood your fruit rot would increase at a faster rate than fruit size, resulting in a net decline in return. In summary, don't count on any fruit sizing in October to be worth extending your harvest for.

On-farm trials: It seems like not a week goes by without someone touting the virtues of a practice, pesticide, fertilizer or new product. I even do it myself sometimes. It is easy to be fooled into thinking that this practice or product is actually working and worth the time and money. But unless you conduct some sort of simple trials you are just fooling yourself with wishful thinking. Positive or negative results may be the function of something not at all related to the product or practice.

Here are a few tips to approaching cranberry products more objectively: 1) Test one thing at a time; keep it simple. 2) Always have an untreated comparison. This has to be from a similar area/bed/variety as the treated site. 3) Conduct the trial under controlled conditions (exact rate for example), not willy-nilly spraying here and there. 4) Have a plan for data collection – yield, disease, fruit size etc., and collect the data. Don't overwhelm yourself with data. Something nice and easy.

When you look at the data, make sure there are enough data to account for variation. One data point doesn't prove anything. This is where replication comes in handy. If you are finding something interesting repeat it again, maybe modify it some. For example, next time when you top dress with sand or sawdust, prune, or fertilize leave a few sections or strips untreated.

Colony inspection: As a general practice it is prudent to inspect the rental colonies for activity levels. You are paying a lot of money for pollination services and you want to make sure the colonies are robust. It's more cost-effective to rent one strong hive of bees for \$100/hive than two inexpensive ones for \$50/hive. Two weak hives will not equal the field force of one strong hive.

When conditions are good, temperatures >65 and wind <10 mph, you should have 80 to 100 bees/colony incoming per minute with at least ¼ of them having pollen on their legs. If upon several inspections you find the colonies come in

consistently under this value, express your concern to the beekeeper.

Pollinator protection: Much attention is being paid to honeybee health. Varroa mites, miticides used to control them, insecticides, and fungicides have all come to be held partially accountable for colony decline. The most recent research is pointing to the importance of the interaction between fulvalinate, the miticide beekeepers use, and sterol biosynthesis inhibiting (Indar) and strobilurin (Abound) fungicides. While fungicides themselves are not considered toxic to bees, the synergism between fungicides and fulvalinate may increase toxicity to bees by 2,000 times.

There is also data to suggest that some fungicides by themselves can be deleterious to bee health. The complete story of fungicide and bee health is still being developed. Much of the exposure seems to be via pollen ingestion. For now, the general recommendation is for growers to not spray fungicides during bloom. Since this is the opposite of what we recommend as best practice for fruit rots control, that generalization is not too practical. The recommendation therefore is to apply fungicide when bees are not present on the beds and pollen is not being released in the very early mornings or evenings.

The toxicity of insecticides to pollinators varies by chemistries (see the following table) and method of exposure. Most data which has been developed is based on acute contact exposure. The lower the lethal dose to kill 50% of the population (LD₅₀), the hotter the insecticide. If you divide the use rate (exposure) by the LD₅₀ you get the relative risk of the insecticide to honeybees. The higher the number the greater the risk. Bees can also get exposed to insecticides from nectar and pollen. Systemic insecticides, like Admire and Belay, represent a risk with nectar exposure, while pollen contamination with an insecticide can occur via direct exposure during bloom.

There is less data available on the toxicity of insecticide via oral ingestion of pollen when pollen is being released during the day or via systemic uptake. The last column in the table indicates how incredibly toxic the neonicotinoids Admire, Belay

and Actara are via pollen exposure. It also shows that Avaunt, while having high acute contact toxicity, has low risk via exposure from pollen consumption. Therefore, if you have to use Avaunt for blackvine weevil control, applying at night will help provide a great margin of safety.

As I have previously mentioned, it is not a good idea to apply pesticides like Diazinon, Success or Delegate at night and then wash them off early in the morning to minimize bee kill. There is new research that definitely shows that bees are still being killed and the irrigation only serves to re-activate the insecticide. As a general principle use Intrepid or Altacor during bloom -- period!

Insecticide	Rate used (lbs/ac)	Bee contact toxicity LD ₅₀ (µg/bee)	Relative risk quotient to bees (use rate/toxicity)	Oral toxicity from pollen LD ₅₀ (µg/bee)
Admire	0.5	0.004	125	0.0039
Belay	0.4	0.014	28	0.00368
Lorsban	1.5	0.06	25	0.25
Diazinon	2	0.09	22	0.2
Actara	0.04	0.005	8	0.005
Delegate	0.13	0.02	6.5	
Success	0.08	0.025	3.2	
Entrust	0.08	0.025	3.2	
Orthene	1	1.2	0.8	
Avaunt	0.03	0.18	0.2	18.52
Intrepid	0.25	100	0.0025	

Cost-saving and cranberry farming: There are several ways to improve the bottom line during times of low returns and crop set-asides. For some growers, maintaining the basic level of production while having minimal input expenses is the most prudent choice. Reducing pesticide and fertilizer costs by choosing the least expensive options can easily save \$500/ac. Below is a set of tables based on actual 2014 grower cost for different products. Pesticides are based on \$/ac per application. Fertilizer is based on a total yearly usage.

A yearly fireworm management program using two to three well-timed insecticides could cost as little as \$14 to \$34/ac. A minimal fungicide program to prevent twig blight and minimize fruit rot using a single Chloronil and Dithane Rainshield would be <

\$30/ac. In some situations however, cost saving via product choice has no effect.

Your choice of copper fungicide is an example of where product selection is not important. There is only a few dollars difference in copper-based fungicides based on active ingredient. If you are really trying to save money, I question the need for putting out any copper fungicide in the first place. Based on many conversations I've had, growers use copper as a "spring cleanup." This is based on old practices and we have never seen any benefit of this timing and it is not recommended. Copper fungicide works great for rose bloom, but you need a lot of rose bloom to affect yield. Yield on rose bloom-infested uprights is reduced by only 1/3. It is rare to get a bed with more than 5% of the uprights infested. At that level of infestation you would lose ~ 1.6 bbl for 100 bbl/ac crop. At \$10/bbl return this would not even pay for the product.

Copper is also a very poor choice for fruit rot. Don't get me wrong; copper is a good fungicide, but not if you are losing the farm. For many processed fruit beds in Washington and Oregon, fruit rot is often minimal without any fungicide. Assuming you don't have twig blight and are not growing fresh fruit, cutting back on fungicides would be another viable way to cut back on expenses.

Post-emergent herbicide can be costly, but it is a lot cheaper than hand labor or losing a crop due to weed pressure. Spot treating only bad sections of weeds with Callisto and Volunteer is a good option for reducing costs.

Judicious fertilizer usage can be a big cost saving. Based on extensive research from Massachusetts and Wisconsin, cranberries need much less P and K than growers commonly use. Vines can do fine with 1:1:1 or a 2:1:2 ratio of N:P₂O₅:K₂O. Using a more highly concentrated product like 16:16:16 over something like a 10:10:10 is also cheaper to apply because of time saving to get the total amount of nutrient you need. Having higher P and K than you actually need can cost you a minimum of an extra \$50/ac or several hundred dollars if you use a blend like 6-24-24. Phosphorus is the major expense in any fertilizer blend. There is a lot of data indicating we are using excess phosphorus in our blends. You can save money by choosing a blend with a lower P to N and K ratio.

I realize that most growers have a set pattern of usage for both pesticides and fertilizers that won't look anything like the above recommendations. What I am suggesting is that using the minimal, most cost-effect products could save you some expenses without having too much impact on production. After conducting pesticide and fertilizer trials for the past 24 years on cranberries, I and others have found that it is really difficult to find subtle differences in treatments. The random variability is greater than the yield or pest response.

Unless you have major deficiencies, putting out a little less P and K is unlikely to affect yield over the next several years. Nitrogen is a different story; too little or too much will have major effects. Is having a few fireworm or a little fruit rot or twig blight going make a big difference in yield? For most beds for most years at the very least, you may be able to get by with two well-timed sprays instead of four sprays.

Herbicide (summer post-emergent)	\$/ ac / application
Callisto	32
Curio	6
Quinstar	11
Volunteer	3.5

Product	lbs applied to obtain 50 lbs of N/ac	P2O5	K2O	\$/ac
6-24-24	833	200	200	313
12-12-12	416	50	50	127
10-20-20	500	100	100	183
14-14-14	357	50	50	120
16-16-16	312	50	50	109
6-24-24 + 46-0-0	415 (25# N) + 50 (25# N)	100	100	173

There are also more drastic ways to save money, such as crop removal. Doing this does not mean you can completely walk away from irrigation, pest management and fertilizing. But you can reduce them. If you decide to eliminate your crop, turn off your frost protection, try 2 to 4 day floods during full bloom, and/or mow to remove flowers. See UMass 2014 chart book for additional recommendations for low-cost production and crop removal.

Tax assessment: If the price of cranberries continues to go south and for whatever reason you find it necessary to walk away from your farm you could be hit by a costly "back-tax" if the property reverts to "non-farm land." You don't want to lose your classification as a farm. A property must generate some gross income from farming in order to qualify. I recently worked with a person who had to pay \$20,000 in 10 years back taxes on their property that reverted to non-agricultural land after they walked away from it during the last crop downturn. A simple solution is talking with your county's assessor about converting it to forestry land by letting alders take over.

Irrigating and fertilizing new plantings: Over the years I've noticed major differences among growers on how well new plantings establish. After good drainage and weed control, the proper amounts of irrigation and fertilizer are key. There is a tendency to over-irrigate new plantings on sand, mea culpa.

Insecticide	\$/ac / application
Lorsban	8
Orthene	6
Diazinon	18
Altacor	40
Intrepid	20
Delegate	35
Avaunt	30
Success	29
Confirm	24
Entrust	48

Fungicide	\$/ac / application
Bravo -Weatherstik.	21
Chloronil720	18
Dithane F45	16
Dithane DF Rainshield	11
Manzate Pro-Stick	17
Abound	23
Indar 75 WSP	59

Copper Fungicide	\$/ 2.1 lbs of metallic copper equivalent application
Champ 2	21
NU-COP 3 I	23
NU-COP 50 WP	20
NU-COP DF	20

While this in itself is not the worst offense, it rapidly leaches the nitrogen out of the soil horizon. If you water 3 or 4 times a day for 15 to 20 minutes to prevent desiccation, you are likely to lose a leach portion of your N. If the vines are not taking off and they are well rooted and have good drainage, I would consider more frequent applications of urea or 21-0-0 and maybe upping the rate.

WEATHER

Although it may not appear so, this 2014 spring is the warmest we have had since 2004 in terms of February to April growing degree days

(GGD). However, it is well below the values from the earlier 1990's. In general, years with earlier growth in the spring tend to be our better years. In the past I've provided data that show there is a decent relationship between spring GGD and the average yield for the state. Let's hope that this relationship has some semblance of truth this year. Insect development is particularly well correlated with GGD. If you combine an early first hatch of fireworm with the warm May we have been having, the second generation of fireworm will definitely peak well before we remove bees. Watch your trap count data closely and have some Intrepid on hand several weeks ahead of your normal timing.

WEATHER HISTORY – WSU Long Beach Research and Extension Unit											
Precipitation (inches per month)						Monthly Growing Degree Days (based 45°)					
Month	2011	2012	2013	2014	20 yr. Ave.		2011	2012	2013	2014	20 yr. Ave.
January	12.2	12.4	10.2	5.9	12.1		28	21	3	16	42
February	7.8	7.1	6.5	7.5	7.5		4	43	9	24	35
March	10.6	15.6	6.6	13.3	9.6		22	29	57	86	57
April	8.4	9.2	6.4	7.3	6.3		29	103	90	141	106
May	4.8	4.7	5.3				158	182	249		
June	1.9	4.1	2.5				323	290	326		
July	2.3	1.1	0.2				414	397	408		
August	0.4	0.3	2.4				453	468	235		
September	3.3	0.5	8.2				370	350	429		
October	5.4	12.7	3.0				205	179	177		
November	10.4	13.0	13.0				28	103	64		
December	4.6	18.5	4.6				9	26	8		
Totals	72.1	99.2	68.9*				2043	2191	2055		

GlobalG.A.P Certification and Pre-Auditor Training

As processors and retailers – even growers – pursue potential domestic or overseas market opportunities, the adoption by growers of an internationally-recognized certification system founded on assurance standards that promote a safe food supply and sustainable production practices will be essential. Although legislation does not currently require food safety audits and mandatory certifications for small farms, many consumers (especially international) are requiring growers to complete G.A.P. audits. (G.A.P. is an acronym for Good Agricultural Practices.) Global agri-food markets are increasingly demanding that their suppliers be certified against a private food safety standard such as GlobalG.A.P.

In addition, the Food Safety Modernization Act (FSMA) may require growers to follow a G.A.P. program (called the "Produce Rule"). Of interest, the Produce Rule would require growers to undergo many of the same steps as the G.A.P. certification process.

GlobalG.A.P. sets voluntary, internationally recognized sets of standards for the certification of agricultural and aquacultural products. The widely-accepted GlobalG.A.P. assurance standards provide a benchmarking framework for a certification program. GlobalG.A.P. certification, which is G.A.P.-based, provides an added reassurance for customers and consumers – whether local, regional, or international – regarding food safety, sustainable production practices, product traceability, and quality assurance and reliability of the food supply.

Funded by the WSDA Specialty Crop Block Grant Program, the Pacific Coast Cranberry Research Foundation in collaboration with the Washington State Horticultural Association is hosting a GlobalG.A.P. workshop that will step growers through the certification process. The certification program will be conducted by BSI Sales & Marketing, a company that performs third-party GlobalG.A.P. certification audits.

The program is scheduled for **June 16-19, 2014; 9 am to 4pm, North Cove Grange Hall, Grayland WA**. There is no charge. The four modules comprising the program are described below, along with potential interested audiences. To register, call Kim Patten at (360) 642-2031 or email pattenk@wsu.edu.

Day One: GLOBALG.A.P Certification (Cranberry and Shellfish Growers)

This module provides an overview of the three key elements of GlobalG.A.P. (i.e., food safety, environmental protection, and worker welfare), requirements of the certification process, and elements of Good Agricultural Practices. Control Points for the All Farm, Crops Base, and Fruit and Vegetable audit checklists used by Certification Bodies during a GlobalG.A.P. audit will also be examined.

Day Two: GLOBALG.A.P Group Certification and QMS Training (Cranberry-specific)

Quality Management System (QMS) requirements of the GlobalG.A.P. will be the focus of this module. QMS must be in place to ensure that grower members and production locations comply with the GlobalG.A.P. standard requirements. QMS ensures consistent structure across the producer grower. These operating and quality management systems related to the GlobalG.A.P. standards must be documented, usually as policies, operating procedures, recording forms, work instructions, and standards. Requirements for group certification and Internal Audit programs are also discussed.

Day Three: Understanding HACCP Principles (Cranberry and Shellfish Growers)

The Hazard Analysis and Critical Control Points (HACCP) module will cover general principals of food hygiene; identification and risk assessment of food safety hazards; documentation and record keeping requirements; management responsibility, authority, and communication; resource management; planning and production of safe products; and validation, verification, and improvement of the food safety management system. Participants will attain the skills and knowledge to administer a food safety management system that supports compliance with food safety legislation, reduces exposure to litigation, and improves food safety.

Day Four: Internal Auditor Training Course (Cranberry specific, Potentially Useful to Others)

This module integrates the environmental, safety, food safety, and integrated management systems comprising the previous modules into a process to plan, conduct, and report on internal audits. Topics include establishing an effective audit program, scheduling audits on the basis of risk and importance of processes, developing an audit.

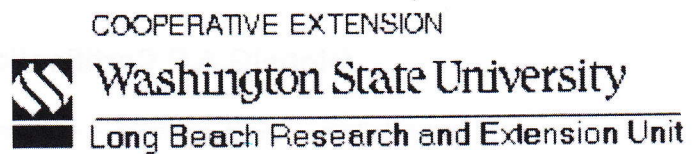
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