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Whatcom *Ag* Monthly

Bringing Scientific Information to the Farming Community

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THE COMMUNITY FOOD ASSESSMENT GETS AN UPDATE – ONLINE AND INTERACTIVE

Colleen Burrows
WSU Whatcom County

A food system includes all of the processes, activities, and people required to get food from farms to consumers in a given community. The Whatcom County food system is rich with local farms, variety of food outlets, and programs to help people eat healthy every day. A Community Food Assessment (CFA) describes the food system in a way that is useful to community members and those working to improve the food system. In 2011, an initial CFA was prepared in Whatcom County. A newly designed website published by the WSU Whatcom County Extension is now online, consolidating key

information about the Whatcom County food system and making it available at the click of a mouse.

This update of the 2011 CFA was collaboratively carried out by members of the Whatcom Food Network Steering Committee. It focuses on current topics and emerging trends that were identified by key informants in each sector of the food system.

The interactive ability starts on the front page of the CFA. The circle diagram shows sectors of the food system (around the grey circle), goal areas of the food system (in the colored circles), and specific goals (in the white area).

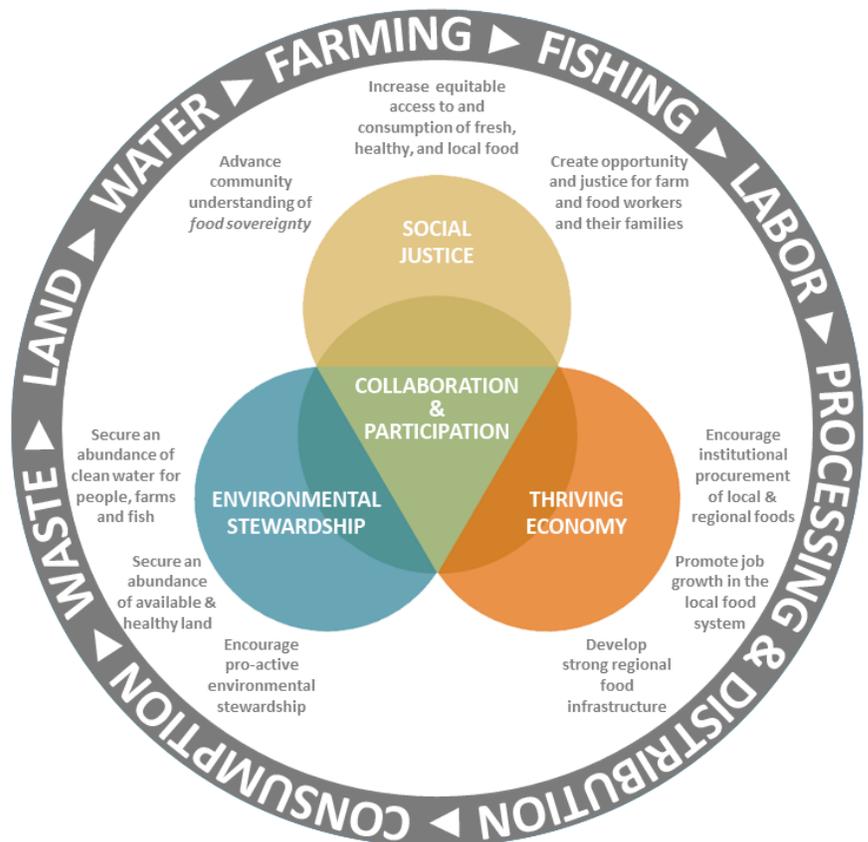
Go To:

<http://whatcom.wsu.edu/ag/cfa/>

Explore the



by clicking
on different
zones in the
diagram



Clicking on a sector (such as FARMING) will lead you to that sector's own page, which highlights the current food system challenges, exciting collaborative projects, future opportunities, and a comprehensive listing of organizations working in each sector.

Environmental Stewardship, Social Justice, and Collaboration and Participation.

The goal in making the CFA more readily available is two-fold: improving the public's understanding of the interconnectedness of Whatcom

County's food system and increasing coordination and collaboration among those who work in local food system development. In addition to the new website, an accompanying report also includes information on current gaps and challenges in each area of the food system, as well as significant recent developments and collaborations, gleaned from interviews with key stakeholders in the local food system.

There are many people and organizations working within the Whatcom County food system. The greater understanding of challenges between these entities, the more able solutions will be oriented to the whole food system.

The CFA website can be accessed at <http://whatcom.wsu.edu/ag/cfa/index.html>.

More information on the Whatcom Food Network can be found at: <http://whatcom.wsu.edu/ag/foodnetwork/>

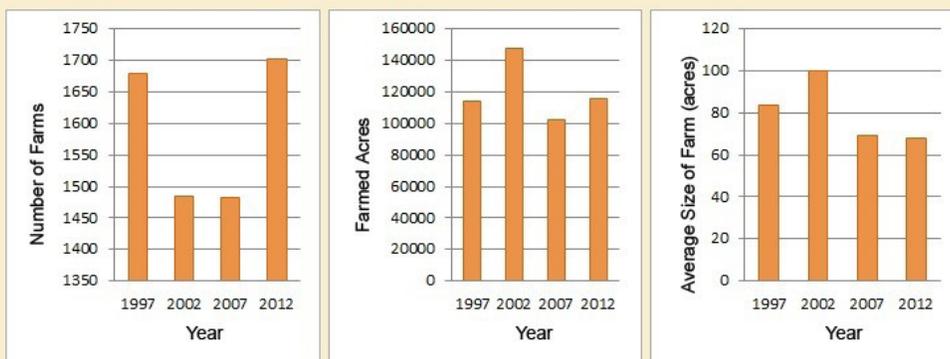
Farming

These organizations are working to mentor new farmers, and help farmers become more financially and/or environmentally sustainable.

Technical Support <i>Providing direct training, tools and assistance linking with resources.</i>	Education <i>Providing information & promoting awareness to target audiences or the community at large.</i>	Advocacy <i>Developing or influencing policy, regulations, or legislation.</i>
A Rocha USA		
Cloud Mountain Farm Center		
	Community Food Co-op	
Growing Veterans		
Growing Washington		
	Sustainable Connections	
	Washington Blueberry Commission	
	Washington Dairy Federation	
	Washington Red Raspberry Commission	
	Washington Seed Potato Commission	
Washington State Department of Agriculture (WSDA)		
WSU Whatcom County Extension		
Whatcom Conservation District		
	Whatcom Farm Friends	

Number of farms, acres farmed and average size of farms in Whatcom County

(USDA Agriculture Census: <http://www.agcensus.usda.gov/Publications>)



Indicators of the food system track the changes over time; these are divided by general areas of the food system such as Thriving Economy,

NEWS ABOUT POTATO VIRUS Y

Debbie Inglis, Plant Pathologist
WSU Mount Vernon NWREC

Potatoes, like all plants, can be infected by plant viruses and virus diseases can be challenging to control. One of the most common potato viruses is Potato virus Y (PVY). This virus can cause striking mottling and mosaic patterns on leaves (Fig. 1), stunted plants, various types of tuber problems (Fig. 2), and significant losses in yield. PVY can be transmitted through seed potatoes, also mechanically such as during seed piece cutting or by field operations that damage plants, and from plant to plant by aphid vectors. Aphid transmissions are described as 'non-persistent' because the vectors may acquire PVY from an infected host in only a few hours (or less) and then transmit PVY to a healthy plant in only a matter of seconds. Aphid species that colonize potatoes as well as those that do not colonize potatoes and only probe a plant momentarily can serve as important PVY vectors. Volunteer potatoes, infected field-grown potatoes, and weeds like nightshade are known sources of the virus for aphids.



Fig. 1. Foliage symptoms of Potato virus Y (photo courtesy of B. Gundersen).

Recently, there have been reports of new strains of PVY occurring throughout the world. Although the "ordinary strain" of PVY, named



Fig. 2. Tuber symptoms of Potato virus Y (photo courtesy of B. Gundersen).

PVY^o, was predominant on potato until the mid-2000s, several new strains (PVY^{N^o}, PVY^{N^{TN}}, PVY^{N^{-wi}}, etc.) have emerged in almost all potato producing regions, and recently in western Washington. These emerging strains (over a dozen now identified) represent new combinations of the virus's genetic material, and cause foliage and tuber symptoms that may differ from the symptoms caused by the ordinary strain. For example, PVY^{N^{TN}} causes a severe necrosis in the tubers, dramatically altering tuber quality and reducing yield. PVY^{N^{-wi}} may cause only very mild mosaic symptoms on potato foliage, making it difficult for seed potato certification agencies to detect the virus visually during summer field inspections and winter post-harvest tests. One thing that is evident about these new recombinant strains is that PVY^{N^{-wi}} seems to be displacing other PVY strains in many areas. In 2012 and 2013 Chris Benedict (WSU Whatcom Co. Extension) and Alex Karasev (University of Idaho) also documented this shift in selected fields in western Washington. Why PVY^{N^{-wi}} is becoming predominant throughout U.S. potato production is not yet known.

While there are potato breeding efforts un-

derway to develop PVY resistant cultivars, few PVY resistant potatoes are readily available at this time. Yukon Gem is one cultivar reported to have good resistance to PVY. Unfortunately, information about the reactions of most other specialty types (reds, yellows, purples and fingerling potatoes), many of which are grown in western Washington, is not available. One unique symptom, canoe-shaped cracks on tubers (Fig. 3), does appear to be associated with PVY infections on Chieftain, and may be a result of cultivar susceptibility, the infecting virus strain, or both. Greenhouse and screenhouse experiments are now being done in the Vegetable Pathology Program at WSU Mount Vernon NWREC to better understand such relationships.

teer potatoes and nightshade, minimizing aphid movement via crop oils and non-agitating insecticides, and killing senescing potato vines early.



Fig. 3. Tuber cracking symptoms on Chieftain, believed to be associated with Potato virus Y plant infections (photo courtesy of B. Gundersen).

Seed potato, commercial potato growers and others, working together, can help to minimize PVY spread. Planting virus-free seed tubers that are made available through seed potato certification programs, practicing good sanitation, and appropriately managing aphid vectors are the general approaches recommended for control. Some other suggestions for PVY management include: disinfecting seed cutting and potato planting equipment, avoiding the cutting of sprouted seed tubers, using a systemic insecticide at planting, cultivating plants in the field when vines are dry, disinfecting equipment between fields, rogueing infected plants (AgDia ImmunoStrip Test Kits, Elkhart, IN, can be used to identify infected plants), controlling volun-

VS OUTBREAK A REMINDER ABOUT DISEASE SURVEILLANCE

Dr. Susan Kerr

WSU Regional Livestock and Dairy Extension Specialist

A recent outbreak of vesicular stomatitis (VS) in Texas and Colorado is a good reminder for livestock producers throughout the U.S. to be ever vigilant when it comes to livestock health.

What is VS?

VS is a contagious viral disease of all hoofed animals--particularly equines, swine and cattle; sheep, goats and camelids are affected less often. The virus occasionally spreads to humans and causes a flu-like disease and blisters in rare instances.

The virus persists in areas in Mexico, South and Central American and a few areas in the southern U.S. It is believed to enter a herd via insect vectors and then spread through direct livestock contact, animal movement and mechanical means, such as contaminated equipment and facilities.

Signs of Illness

Affected animals have erosions and sloughing of tissue on the lips, tongue (see photo), teats, prepuce, between the toes, and on hoof coronary bands. Blisters and vesicles occur on these areas early in the course of disease but are often missed by human caretakers. Other signs include fever, poor appetite, lethargy, weight loss, drooling, scabbed lesions, and lameness if feet are involved.

Why is VS Important?

VS is present in the U.S. and occasional disease outbreaks occur. Also, although VS is very contagious and can cause many cases of illness on premises, animals rarely die from it. Nevertheless, the disease is particularly important for several reasons:

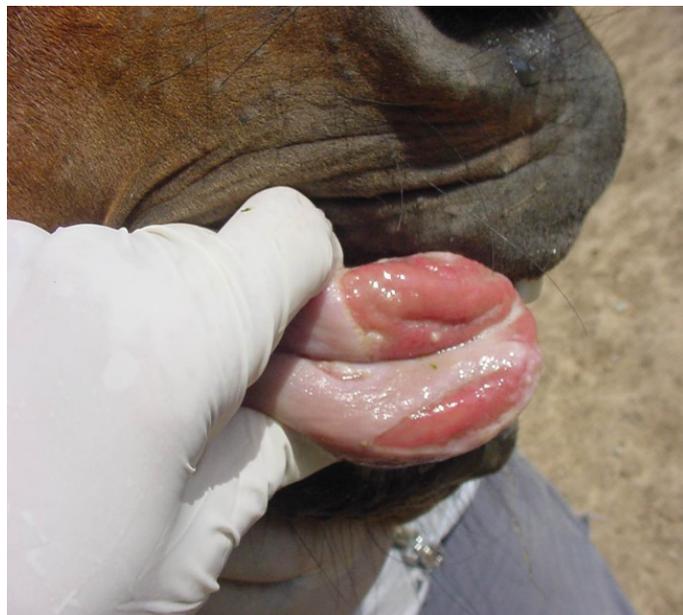


Photo by Dr. Jeanne Rankin, from <http://blogs.extension.org/edenotes/tag/news>.

- The signs of VS are similar to three foreign animal diseases not present in the U.S.: foot and mouth disease, swine vesicular disease, and vesicular exanthema of swine. It is essential to differentiate VS from these other diseases quickly so the entry of one of these exotic diseases can be identified and dealt with promptly
- VS is very contagious, so outbreaks in the U.S. restrict some international trade until the outbreak is contained
- Its similarity to important foreign animal diseases make VS a reportable disease in the U.S.
- Animals afflicted with VS are in pain, stop eating, lose weight, and produce less milk. A widespread outbreak could cause significant animal suffering and economic losses.

Control Measures

A vaccine for VS is not available in the U.S., so

control of biting insects is the major component of VS control and prevention measures. Stabling animals, eliminating stagnant water, and using effective insect repellants are helpful actions. To reduce mechanical transmission of the virus, equipment and tools should not be shared between farms. During outbreaks, healthy animals should be monitored closely for early signs of illness (fevers and vesicles) so they can be isolated from other animals quickly.

LIVESTOCK OWNERS: if you ever notice a vesicle, blister, ulcer or erosion on an animal's mouth, teats, prepuce or feet, contact a veterinarian at once. Odds are this is not a foreign animal disease, but if it is, every hour of diagnostic and containment delay means an exponential increase in the cost of the outbreak, in both economic impact and animal suffering.

State and/or federal veterinarians are responsible for making the diagnostic determination in cases of VS. They issue quarantine orders, stopping animal movement to and from affected premises. They also advise owners about disinfection measures and isolation of affected animals to protect unaffected animals on the premise.

Conclusions

VS outbreaks are a reminder for livestock owners to develop, fine tune, or brush the dust off farm biosecurity plans. Livestock owners will be the first line of defense in the event of the entry of a foreign animal disease into the U.S. Early detection is our best hope for containing economically-important diseases such as foot and mouth disease. Monitor your animals regularly for signs of illness and call your veterinarian immediately if you see vesicles, blisters, erosions, or the other signs previously mentioned. Let's hope it is "only" VS or something more innocuous.

For Additional Information

- www.cfsph.iastate.edu/DiseaseInfo/disease.php?name=vesicular-stomatitis&lang=en
- <http://tinyurl.com/lhxf5hv>
- www.aphis.usda.gov/publications/animal_health/content/printable_version/fs_vesicular_stomatitis_2012.pdf

FOOD SAFETY TIPS FOR WASHING PRODUCE

Tianna DuPont

Extension Educator Penn State University Extension

Water can move a pathogen from one piece of produce to a large volume of product. Keep these tips in mind to keep your produce safe.

- The water source must meet EPA microbial standards for drinking water (potable).
- Use a sanitizing agent in batch washing tanks.
- Use test strips to regularly check concentration.
- Change water when dirty.
- Clean and sanitize tanks between uses.
- Clean hands and equipment regularly!
- Be sure sanitizers are EPA approved for food contact use.

Greens can be washed in single or multiple wash tank systems. Recently [Vernon Grubinger from the University of Vermont did a study on ways to reduce bacteria](#) in produce wash water. His group found that bacterial loads can be greatly reduced with the addition of a full-dose of sanitizer (SaniDate® 5.0, or similar product) in a single vessel system. This method requires less infrastructure and water. However, two separate rinses, each containing the sanitizer, was more effective for reducing grit. With sanitizer and double rinse bacteria were reduced by 99.6%. Triple washing was the best washing method for farms with appropriate infrastructure (e.g., triple bay sink, multiple stock tubs). Up to 98.0 % reductions in bacteria were achieved without sanitizer and with triple rinsing. When triple washing, its best to add a sanitizer to the first wash tank. That's because one contaminated item can spread pathogens through the entire batch and the sanitizer in the next basin would have to work harder to decontaminate the water and the produce. If



the greens are particularly gritty or muddy, it's a good idea to rinse the greens with non-recirculated spray water. No sanitizer is needed when using spray water.

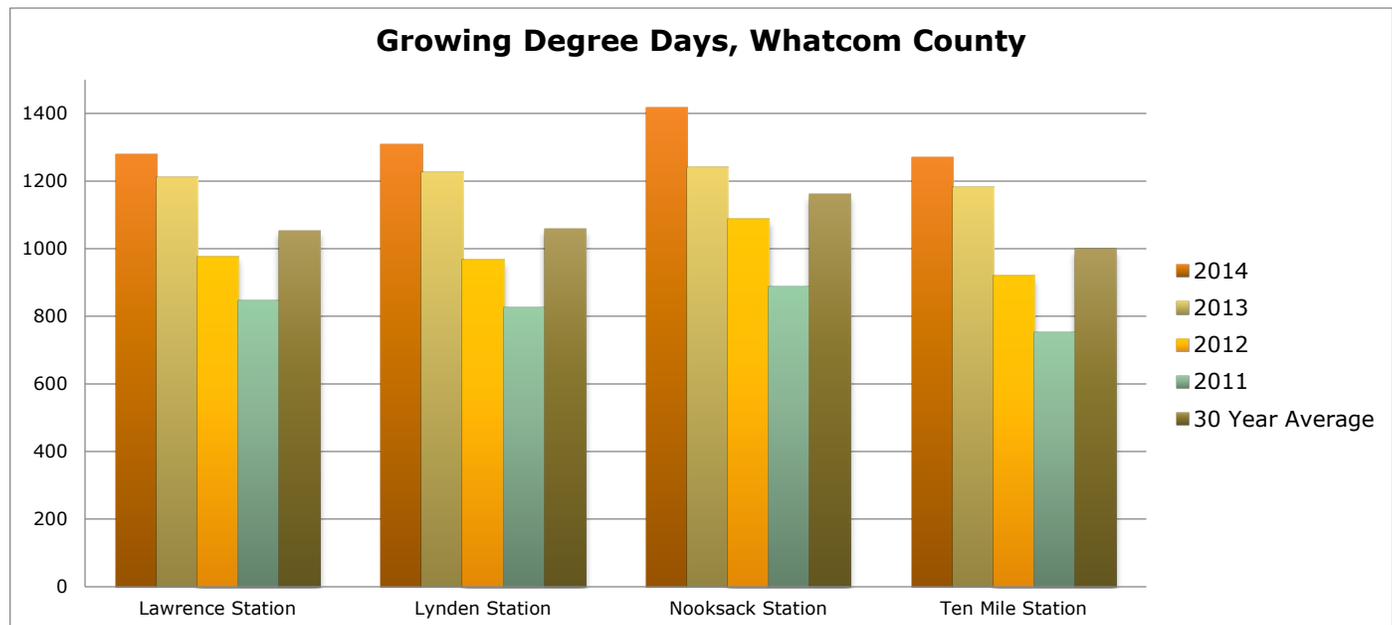
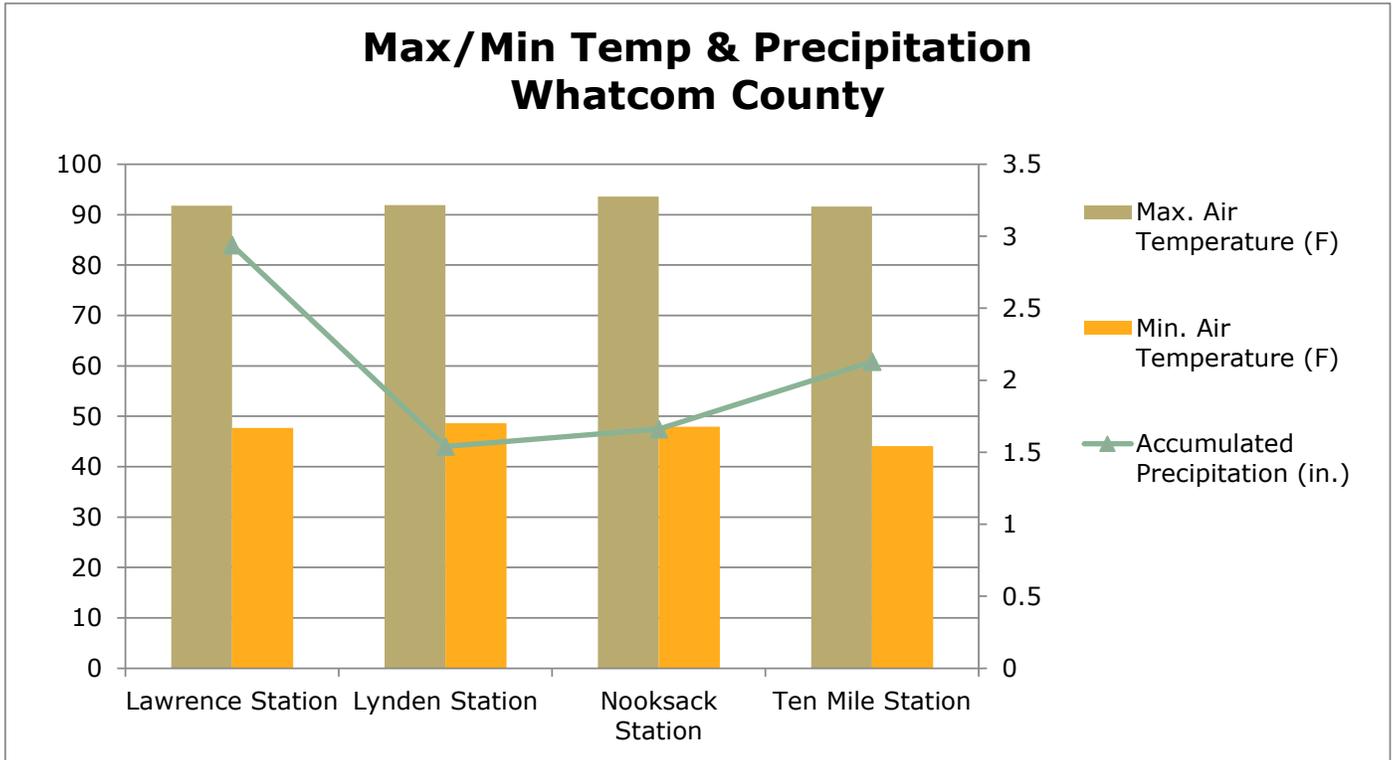
There are several commercially available sanitizers used in wash water: two common ones are peroxyacetic acid and chlorine. Peroxyacetic acid is a combination of hydrogen peroxide and acetic acid. It kills microbes through oxidation. In many commercial products, its strength is enhanced by pre-mixing with hydrogen peroxide. A few advantages to peroxyacetic acid formulations are that it has a relatively low reactivity with organic matter and soil and it is effective across a wide range of pHs. A few commercial examples are Sani Date, Oxidate, and Tsunami. Chlorine is hypochlorous acid (HOCl). It is commonly used due to its relative low cost, however chlorine will react with organic matter and soil

and is most effective at neutral pH (6.5-7.5). If you plan to use chlorine for your sanitizer it is critical that you test the levels frequently to ensure that the soil has not neutralized your product. Also keep in mind that household bleach often contains non-food grade additives. Additionally, under the Safe Drinking Water Act, you must ensure that you are not disposing wash water that is above the maximum residual disinfectant limit of 4 ppm hypochlorite. Remember, whatever sanitizer you use, federal law requires that it be labeled for use in fruit and vegetable wash water. There are many sources of these and other food safe sanitizers. A few include EcoLab (Mark.Ivkovich@ecolab.com); AFCO (1-800-345-1329); and BioSafe Systems (1-888-273-3088 to find a local distributor).

This article is reprinted with author permission and the original can be found [here](#).

WEATHER UPDATE

All information here is derived from the four weather WSU AgWeatherNet stations (<http://weather.wsu.edu/awn.php>) in Whatcom County. Current weather conditions can be found at: <http://whatcom.wsu.edu/ag/currentdata.html>. Station information can be found [here](#).



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Upcoming Events

August

[North American Strawberry Growers Association Summer Tour](#)

Aug 20th - 21st
B.C.

[The Grain Gathering](#)

Aug 21st - 23rd
8:00 am - 5:00 pm
Mt. Vernon, WA
The annual conference brings together professional and home bakers, malsters, brewers, millers, farmers, wheat breeders, food writers, wood-oven builders, and people who come to enjoy "summer camp for bread lover."

[Tilth Producers Farm Walk at Local Roots](#)

Aug 25th
Duvall, WA
This tour of a diversified vegetable farm will highlight appropriate post-harvest handling practices to ensure a safe and quality product. The farmers will discuss their experience with becoming Good Agriculture Practices (GAP) certified.

September

[Livestock Advisor Training](#)

Sept 15th
6:00 pm - 9:00 pm
Learn to raise your own beef, sheep, goats, poultry, swine and rabbits either traditionally or organically on your farm. Feeding, housing, breeding, fencing, pastures, weeds and more are all covered in this 10 week session. Several livestock farm tours are included to show best management practices of raising livestock.

[NABC Fall Orchardring Workshop](#)

Sept 19th
Mt. Vernon, WA
A dynamic one-day workshop featuring a team of experienced professionals led by expert Western Washington Orchardist/Pomologist Gary Moulton. Both Dr. Ines Hanrahan of the Washington Tree Fruit Research Commission and Dr. Jay Pscheidt of Oregon State University will address the practical aspects of fall orcharding as well as current trends.