http://ipm.osu.edu/fruit/index.html

THE OHIO STATE UNIVERSITY Newsletter Extension

Fruit ICM News

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Calendar

September 19-21: Farm Science Review, Ohio State University brings the top agricultural experts together in one place at the Molly Caren Agricultural Center west of Columbus near London, Ohio in Madison County. Twenty-one hundred acres showcase 600 commercial exhibitors and over 700 acres of field demonstrations. For more information call (800) 644-6377 or visit the Farm Science Review Homepage at http://www.ag.ohio-state.edu/~farmshow

February 19 to March 4, 2001: New Zealand Tour.
Dr. Peter Hirst, extension fruit specialist in Indiana, will be leading a tour to New Zealand from Feb. 19 to March 4, 2001. Cost of the tour is $3000. More information regarding the tour can be obtained by calling Peter Hirst at 765-494-1323 or by e-mailing him at hirst@hort.purdue.edu.

Making Some Sense of Long Lead Weather Outlooks

Source: Jeff Andresen, Agricultural Meteorology Geography, Michigan State University's Fruit Crop Advisory Team Alert, August 22, 2000

Have you ever looked at a long-range forecast product and wondered how to interpret it? "Long lead" or "long range" outlooks generally cover time frames greater than two weeks into the future. Until the mid-

1990s, National Oceanic and Atmospheric Administration (NOAA) long-range outlooks covered only one-month and three-month forecast periods. NOAA long-lead outlooks are now available in three-month increments out to 12 months into the future. See the NOAA Climate Prediction Center web site at: http://www.cpc.ncep.noaa.gov/products/predictions/90day/

While short-range or medium-range forecasts for the upcoming days or weeks are largely derived from process simulation models of the atmosphere run on supercomputers, long-range outlooks of one month or more are generally based on statistical methods. These include forecasts based on land/ocean surface temperature, and precipitation anomalies during the past 12 months, and forecasts based on the evolution of past upper air flow patterns similar to those at the forecast time.

An important, relatively new exception is the National Center for Environmental Prediction (NCEP) Coupled Ocean/Atmosphere Model. This model is a large-scale simulation of the atmosphere and ocean that provides sea surface temperature anomalies (which in turn are related to future atmospheric anomalies) and is strongly related to the Southern Oscillation Index (SOI).

In interpreting a NOAA long lead outlook, remember a basic assumption. Each of the possible forecast categories for temperature and precipitation (below, near, and above normal) are assumed to have equal chances of occurring in the future. That is, each category has a 1/3 or 33.33 percent chance of occurring (note that all of the possible categories must add up to 100 percent).

The actual definition of which category a particular temperature or precipitation total will fall into is based on past climatology of a given location. The climatologists that create the outlooks then deviate from the 1/3 probabilities when they have reason to believe that a certain pattern or patterns may cause temperatures in one area to deviate from the climatological average. Depending on how strongly they believe the departure from normal will be, its odds or probability is then shifted to reflect the consensus of the forecasters.

Regardless of which way the temperature or precipitation forecast probabilities may shift, remember that added up, they must still equal 100 percent, so that if an area is expected to and has a forecast of 45 percent odds of above normal precipitation, the 10 percent which was added must be subtracted for the other end of the range of outcomes (i.e. the below normal category), and the odds of below normal precipitation are reduced by 10 percent (33%-10%=23%).

While looking at the outlook map, the numbers listed on the map need to be added to a particular category based on color. For example, a tint of green generally signifies areas of above normal precipitation. Yellow and brown hues denote areas where below normal precipitation is expected.

For temperatures, blue is associated with below normal values and yellow to red is associated with above normal levels. Shades of gray are reserved for areas where the near normal categories are expected (for either temperature or precipitation). You may note many areas of the map that do not have any color, or are marked with the letters "CL". This stands for the climatology scenario in which each variable category is assumed to have an equal chance of occurring.

For example, in last month's long lead outlook for precipitation during August-October, 2000, much of Michigan (except for the western Upper Peninsula) is under a yellow/brown area with listed values from 0 to just over 5. This means that the forecasters believe that there is a greater than normal (1/3) chance in this time frame that precipitation will remain below normal. Thus, for most of the state, the odds of precipitation being in the below normal category would increase from 0-5%, or 33.3%-38.3%. The corresponding odds of the above normal category would then decrease, from 33.3% to a range of 28.3%

to 33.3%.

One last reminder: unlike the limits of the individual categories for equal 1/3 odds, which are defined by climatological records, the probabilities on the outlook maps to be added or subtracted are determined as the best educated guess of the forecasters, and , like any forecast of future conditions, have finite skill (remember earlier long-term outlooks this spring for excessive dryness across much of the Midwest).

In general, temperature outlooks have greater skill than precipitation outlooks, and the longer the lead time of the forecast (how far out into the future), the less the skill. Remember that short-term outlooks, such as for the next one to two days, have a much higher probability of being accurate than a forecast of temperatures next summer.

Finally, there are even geographical differences in skill, with the most accurate long lead outlooks available on both east and west coasts and the least in the Intermountain West, Rockies, and portions of the Great Plains.

Obituary

We are saddened by the death of Ralph Zantello, well-known by fruit growers across the state as the certified crop consultant for U.A.P. of Great Lakes Growers Service Division. He also owned and operated Appleseed Orchards in Ashland, Ohio. We had great respect for Ralph's knowledge and expertise in apple pest management.

Ralph is survived by his wife, Joanne; two daughters, Susan and Laura; one son, David; and one brother, Robert. Memorials may be made to Peace Lutheran Church, 1360 Smith Road, Ashland, OH 44805 or to Ohio Fruit Growers Society, P.O. Box 479, Columbus, OH 43216.

Peachtree Borer & Lesser Peachtree Borer on Bearing and Nonbearing Trees

Source: Ohio Commercial Tree Fruit Spray Guide 2000 and Penn State's 2000-2001 Tree Fruit Production Guide: http://tfpg.cas.psu.edu/part5/part53h.htm

Two borer species may be present at this time of the season: the peachtree borer (PTB) and the lesser peachtree borer (LPTB). They often infest peach trees, as well as apricot, cherry, and plum trees. The PTB is primarily a pest of young trees, the LPTB of older trees. Moths of the borers lay their eggs on the bark. Some of the regularly applied cover sprays aid in controlling borers; however, specific trunk and scaffold branch sprays are often required. Pheromone traps indicate moth emergence and aid in proper timing of spray applications. When borers are a problem, make a spray 7 to 14 days after moth emergence begins (spray mid May to early June for LPTB or late July to early August for PTB) and again 6 to 8 weeks later. Where damage has been light, make a spray at peak of second flight (spray after harvest in August).

If only PTB is present and it is on a late-maturing variety, apply a trunk spray during the first week of August. Use one of the insecticides under Peaches- First, Second, Third Cover, "Early-season lesser

peachtree borer" (see website listed in above source.) If it is an early-maturing variety, make a postharvest application of chlorpyrifos 4E (Lorsban 4 EC), 1.5-3 quarts per 100 gallons, as a coarse, low-pressure, handgun application. Apply at least 1 gallon per tree.

If only LPTB is present, either a preharvest spray on late-maturing varieties or a postharvest spray may be made as described above. If both PTB and LPTB are present, use chlorpyrifos 4E (Lorsban 4EC) within the first 2 weeks of September (postharvest). Thoroughly wet all bark areas from ground level to scaffold limbs.

Nonbearing trees: If peachtree borer damage is present, make two applications, the first around July 15 and the second around August 10. Use endosulfan 50WP (1 lb) per 100 gallons of water.

Additional notes from Ohio Commercial Tree Fruit Spray Guide 2000: The Lorsban formulation to be used is 4 EC. Lorsban 50 WP is labeled for borer control on sour cherry, but not on sweet cherry, peach, or nectarine. For Lorsban 4EC on peach or nectarine trees do not make more than 1 applicatioin per season, nor within 14 days of harvest; on cherry, make 2 pre-harvest (at least 6 days before harvest) and one post-harvest application. For Thiodan, do not make more than 2 applications during fruiting period, nor within 21 days of harvest of peach, nectarine, or cherry.

Storage Scald on Apples

Source: Midwest Fruit Pest Management Handbook

http://www.ca.uky.edu/agc/pubs/id/id93/ch_7.htm

Storage scald is a physiological disorder of apples that results in a brown discoloration of the skin. It is usually a problem only when apples are held in long-term storage. The disorder usually does not extend below the skin, but the skin discoloration makes fruit unmarketable. Cultivars differ in susceptibility to scald. Susceptible cultivars include McIntosh, Cortland, Red Delicious, Stayman, Turley, and Rome Beauty. Other cultivars can occasionally develop scald.

Conditions that may result in increased scald include:

- Hot temperatures in the pre-harvest period;
- Overloading storage at harvest time, resulting in slow cooling; and
- Harvesting and storing fruit that is too immature.

Scald incidence can be minimized by considering the following:

- Pick fruit at optimum maturity for long-term storage;
- Get fruit cooled to storage temperature as quickly as possible; and
- Promote good color development on fruit by the optimum harvest time, e.g., avoid excessive vegetative growth, high nitrogen levels, and excessive pruning that results in heavy growth and shading.

Control: Diphenylamine (DPA) can be found in the U.S. as "No Scald DPA EC-283" 31% a.i. from Elf Atochem North America and "Shield DPA" 15% a.i. from Pace International LP. It can be applied only as a post-harvest drench. See product label for rates.

The drench should be applied within 7 days after harvest (before storage) and is more effective when applied to warm, dry fruit. Results are poor if fruit is cooler than 50°F. Scald is initiated during the first 30 to 40 days of storage for some cultivars; after this time, treatment with DPA may have no beneficial effects. Do not mix calcium chloride or other chlorine products with DPA, as they may react with the DPA. Drench fruit thoroughly by dipping the entire container or by overhead drenching of the containers long enough to cover fruit thoroughly, but not to exceed 30 seconds. Be sure the DPA solution is well drained out of containers, or fruit injury may result. Tilt bins if necessary. Do not use bins with liners. Wash and brush fruit either before treatment or after storage. Follow label instructions for rates for each cultivar. Some cultivars are more easily injured by DPA than others. Do not treat too much fruit with a batch of solution. The solution should be replaced with a fresh solution daily or more often if it becomes dirty, usually after dipping 30 bins (750 bushels) in 100 gal. of solution. Keep solution well agitated to avoid stratification. Test kits are available from the company from which the DPA was purchased for testing solution concentration. Test concentration of solution daily and adjust the chemical concentration in the treatment solution (See table below). Do not rinse apples after treatment. Cool fruit as rapidly as possible after treatment.

Recommended concentration for DPA solution

DPA (ppm)	**Cultivar**
1,000	Rome Beauty, Turley
1,111	Baldwin
1,000-1,500	McIntosh
1,500-2,000	Stayman
2,000	Cortland, Delicious, Idared, R.I. Greening, Fuji
DPA is not recommended for Golden Delicious.	

If apples are to be shipped to another country, a determination needs to be made if the country will permit the sale of treated fruit. The statement "Treated with Diphenylamine to retard spoilage" is required on the shipping container in the U.S. Fruit treated with DPA may not be used for livestock feed, as illegal residues may occur in meat or milk.

Disposal: DPA cannot be discharged into lakes, streams, or rivers since it is toxic to fish. Disposal should be in a manner recommended by the manufacturer. Common methods of disposal include spraying the diluted DPA on the orchard floor (not to exceed 1,200 gal./acre), disposal into a plastic-lined evaporation pond, or disposal through a commercial waste treatment company.

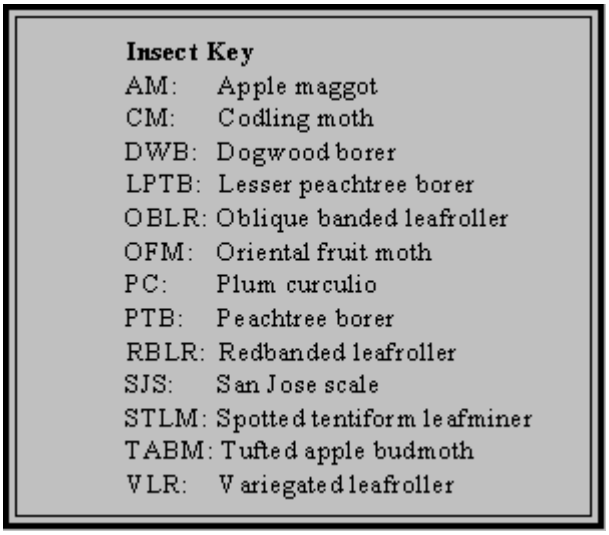
2000 USDA Apple Production Forecast

Source: USDA, National Agricultural Statistics Service, August 11, 2000.

	Percent change from 1999	Percent change from 5-Yr. Average
New York	- 17 percent	- 6 percent
Pennsylvania	-5 percent	+3 percent
Total East	-15 percent	-6 percent

Michigan	-34 percent	-22 percent
Ohio	-10 percent	No change
Illinois	+23 percent	+16 percent
Indiana	-25 percent	-22 percent
Kentucky	No change	-17 percent
Wisconsin	-13 percent	+9 percent
Total Midwest	-28 percent	-16 percent
Washington	+16 percent	+8 percent
California	-12 percent	-18 percent
Total West	+16 percent	+6 percent
Total U.S.	+1 percent	No change

Fruit Observations



Site: Waterman Lab, Columbus (8/17-8/23)
Source: Dr. Celeste Welty, OSU Extension Entomologist
Traps used: STLM=wing traps, SJS=Pherocom-V, Others=Multipher-1® traps

Apple
RBLR: 36 (down from 37)
STLM: 221 (up from 124)
DWB: 0.0 (down from 1.5)
SJS: 0 (unchanged)
CM: 8.0 (down from 19.3)
OBLR: 0 (unchanged)

Peach
OFM:9 (unchanged)
LPTB: 3.0 (down from 10.5)
PTB: 15.0 (down from 18.0)

TABM: 1 (up from 0)
VLR: 3 (up from 1)
AM: 1.0 (down from 1.3)

Site: East District; Erie & Lorain Counties (8/16-8/22)
Source: Jim Mutchler, IPM Scout
Traps Used: STLM=wing traps, SJS=Pherocon-V, Others=Multipher® traps

Apple	**Peach**
RBLR: 10.6 (down from 12.7)	OFM: 3.0 (down from 12.0)
CM: 8.6 (down from 12.1)	RBLR: 15.0 (down from 19.3)
SJS: 0.0 (down from 32.3)	LPTB: 27.3 (up from 25.3)
AM: 0.8 (down from 3.3)	PTB: 4.3 (down from 7.3)

Other pests: green apple aphid, Japanese beetle, potato leafhopper, white apple leafhopper, blister spot, scab

Beneficials at work: lacewing eggs, larvae, & adults, orange maggots, *Stethorus punctum,* and other lady beetles

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Site: West District; Huron, Ottawa, & Sandusky (8/16-8/22)
Source: Gene Horner, IPM Scout
Traps Used: STLM=wing traps, SJS=Pherocon-V, Others=Multipher® traps

Apple	**Peach**
RBLR: 25.2 (unchanged)	OFM: 2.0 (down from 4.8)
SJS: 0.0 (down from 1.0)	RBLR: 27.0 (down from 32.3)
CM: 1.6 (down from 3.9)	LPTB: 23.5 (down from 43.3)
AM: 0.5 (down from 1.7)	PTB: 1.5 (up from 0.5)
PC: 0 (unchanged)	
OBLR: 0 (down from 2.3)	

Other pests: potato leafhopper, two-spotted spider mite, plum curculio damage

Beneficials at work: Green lacewing larvae, banded thrips, brown lacewing adults, predator mites, *Stethorus punctum*

Site: Wayne County (8/10-8/16)
Source: Ron Becker, Extension Program Assistant
Traps used: STLM=Wing traps, PC=Circle trunk trap, Others=Multipher® traps

	Apple			

	North	South	East	West
RBLR:	15.3	28	34	10.5
STLM:	1013	20.0	20	119
CM:	5.3	5.8	3.5	35.9
PC:	0.3	0.2	0	0.3

	Peach		
	North	South	West
OFM:	8	44	50.5
LPTB:	0	3	0
PTB:	0	0	0

Northern Ohio Sooty Blotch - SkyBit Product

SkyBit based observations: August 1-23; possible infection and damage

Based on Forecasts: August 24-September 1; possible infection & damage

Degree Day Accumulations for Selected Ohio Sites January 1, 2000 to date indicated

	Actual DD Accumulations August 23, 2000		**Forecasted Degree Day Accumulations August 30, 2000**			
Location	**Base 43° F**	**Base 50° F**	**Base 43° F**	**Normal**	**Base 50° F**	**Normal**
Akron - Canton	3036	1988	3200	3309	2102	2279
Cincinnati	3685	2553	3875	4110	2691	2952
Cleveland	3057	2024	3221	3255	2138	2239
Columbus	3643	2525	3817	3634	2649	2553
Dayton	3542	2427	3719	3714	2553	2632
Mansfield	3052	2013	3215	3281	2116	2258
Norwalk	3132	2095	3293	3233	2207	2232
Toledo	3199	2139	3360	3228	2250	2230
Wooster	3171	2104	3326	3133	2210	2119
Youngstown	2933	1888	3087	3070	1993	2071

Phenology

	Range of Degree Day Accumulations	
Coming Events	**Base 43 F**	**Base 50 F**
Spotted tentiform leafminer 3rd flight peak	2415-3142	1728-2231
San Jose scale 2nd flight subsides	2494-3257	1662-2302
Obliquebanded leafroller 2nd flight peak	2634-3267	1789-2231
Apple maggot flight subsides	2764-3656	1904-2573
Lesser peachtree borer flight subsiding	2782-3474	1796-2513
Codling moth 2nd flight subsides	2782-3693	1796-2635
Oriental fruit moth 3rd flight subsides	2987-3522	2018-2377
Redbanded leafroller 3rd flight subsides	3103-3433	2013-2359

Thanks to Scaffolds Fruit Journal (Art Agnello)

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