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Agriculture & Natural Resources
SAN JOAQUIN COUNTY
FIELD NOTES
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A QUARTERLY PUBLICATION OF COOPERATIVE EXTENSION
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Irrigating Orchards in a Drought Year

Fortunately, most San Joaquin County orchards have access to groundwater and will escape the dire restrictions in surface irrigation water deliveries that are threatening orchards in other parts of the state. This does not mean, however, that we are immune from water worries. Soil moisture stored from winter rains to date is at a very low level in most orchards and will remain so unless moisture is loaded into the root zone by late season rains or by irrigating. Barring an unusually late-season surge of "free water" in the form of rainfall, pumping costs will be higher (and groundwater overdrafts increased) to meet orchard demands for water.

Start with a full profile. For a number of reasons, it is best to start the season with the root zone fully recharged with water. Ideally, this condition should be achieved before the onset of root growth. In most tree and vine crops, roots begin growing around a month before budbreak or, in other words, about now.

A fully charged root zone will help ensure the best possible early season root growth and, as a consequence, the spring shoot growth supported by those roots. Perhaps more importantly, water successfully stored deep in the root zone – and conserved through spring and early summer by an irrigation program that meets ongoing demand - will be available as a reserve supply in late summer when the trees' daily demand for water exceeds our ability to resupply it by irrigating.

Irrigations applied now to fill the soil profile in advance of budbreak should be made slowly and steadily, avoiding irrigation runs that create saturated conditions (longer than 24 hours) favorable to Phytophthora root and crown rot. Check soil moisture after each irrigation to assess the depth of wetting and need for additional applications. Especially on heavier soils, schedule and plan to complete needed irrigations well in advance of your anticipated need to access the orchard with equipment for spraying and other activities.

Use deficit strategies that minimize adverse impacts. In orchard situations where water supply is limited and irrigations must be reduced, research and experience on tree responses to water deficits have shown that:

- Shoot growth is the yield component most sensitive to water stress, followed by fruit/nut size.
- Fruit/nut number is generally not affected until the second or third year of sustained deficit, when earlier impacts on shoot and spur growth reduce the number of potential fruit/nut bearing positions. In most fruit and nut crops, shoot and spur leaves that develop during the first main flush of vegetative growth in spring contribute more to the carbohydrate demands (and, therefore, size) of the developing crop than leaves developing in later growth flushes.

These facts suggest that the best strategy for allocating a limited water supply over the growing season would be:

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Irrigate so as to avoid water deficits during the period from budbreak through the end of the first flush of spring vegetative growth.

- For spring and early summer harvested fruits, irrigate as fully as possible until harvest to avoid stress-induced fruit size impacts. Mild stress during this period may be possible without reducing size.

- Later season reductions in applied water are probably best achieved by spreading available water evenly or in progressively smaller increments over the rest of the irrigation season. Use the same irrigation frequency, but reduce the amount of water applied in each irrigation. In general, this approach has sustained tree growth, productivity and, in the severest cases, survival better than irrigating fully for part of the season and then cutting off water entirely late in the season.

Avoid severe stress in mid to late season as fruit buds continue to develop. A good rule is to avoid premature leaf drop.

Ensure the most uniform distribution of irrigation water possible. If water is limited, one of the first things to consider is how evenly the water is distributed through the orchard. In pressurized systems, uniformity is "designed in". However, some of the low bid systems trade uniformity for system price. After design and installation, changes such as adding an additional line or increasing emitter or sprinkler size can cause pressure differences within the system that are large enough to affect distribution uniformity. An easy way to check uniformity is to measure the output volume of a few emitters or sprinklers closet to the pump and some farthest away. If there is more than a 5-8% difference in output, then uniformity is impaired enough to be of concern. Uniformity may be restored by:

- Checking main and infield pressure regulator settings: Higher pressures cause more friction losses.
- Check emitter/sprinkler size: Larger output emitters or nozzles result in higher flows increasing friction losses.
- In engine driven irrigation systems, reducing engine speed can reduce pressure to make up for the lesser pumping rate.
- For drip systems, check for emitter clogging, the major cause of drip system non-uniformity. Evaluating a drip system for clogging and the remedies are discussed in "Maintaining Microirrigation Systems", ANR Publication 21637, and "Microirrigation of Trees and Vines" ANR Publication 3378. Both are available at our Stockton office.

Make informed irrigation decisions. It goes without saying that water cannot be skillfully managed without timely and accurate information on soil and tree water status and accurate projections of water demand and supply. There are many moisture monitoring tools available to inform irrigation scheduling decisions: tensiometers, probes, and sensors for monitoring soil moisture, the pressure "bomb" and other tools for assessing tree water status, and reliable climate-based models for estimating crop water use. In times of drought or inadequate water supply, such tools are indispensible in making use of the best use of the water we do have to sustain productive orchards.

More information on irrigating orchards and other crops in a drought can be found at http://ucmanagedrought.ucdavis.edu/

Joe Grant, Farm Advisor
Terry Prichard, Irrigation & Soil Specialist

Crop Digest—Grapes and Almonds

Chilling and Rainfall

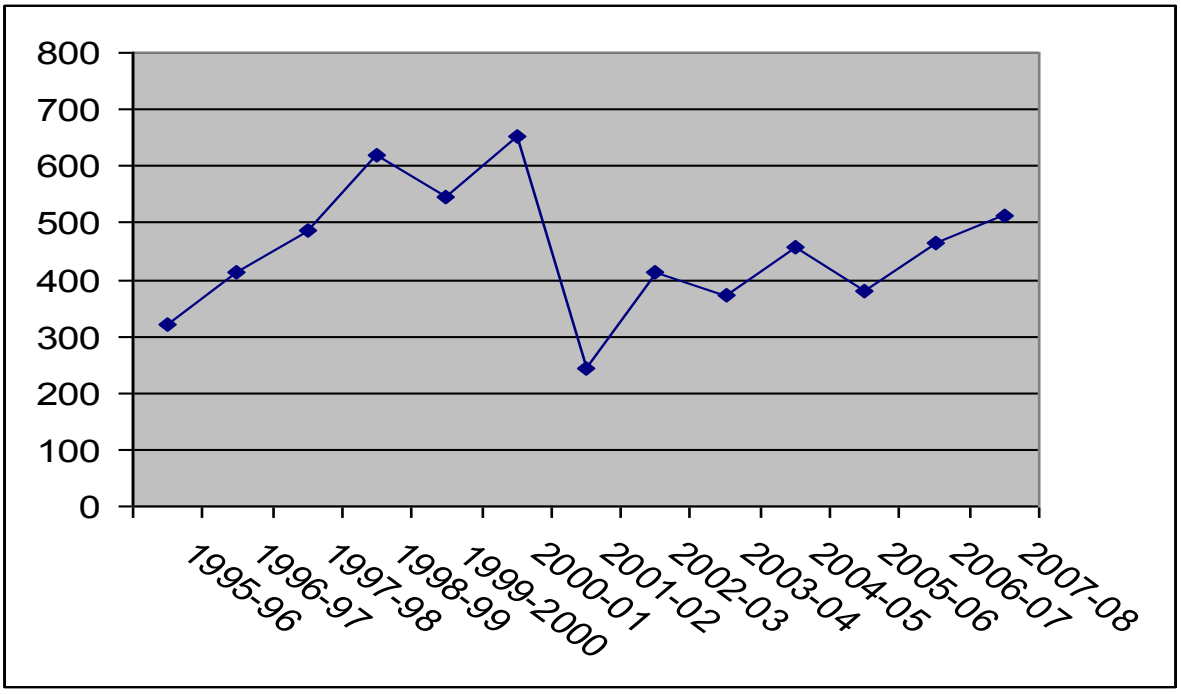
The 2008 year ended as dry as it began and we continue to fall behind in winter rainfall. Last year at his time there had been a total of 5.48 inches of rain, while this year there has only been 4.06 total inches as of January 15. If the recent pattern holds and both 2007 and 2008 were very dry years, it will be difficult to catch up, without problems of late winter or early spring flooding. Fortunately chilling hours (hours below 45 F) have been about normal or slightly above for the 13 year long term average, ET of winter cover and weeds has been low. Nonetheless, soil conditions are very dry compared to average. The total accumulated chilling hours for November and December was 519 compared to the long term average of 452 hours and to last year's accumulation of 474 hours at the end of December 2007.

It might be good to consider a mid-winter irrigation for both trees and vines. Even if it does rain, that might be a good opportunity to time an irrigation to maximize the next rain. If water for irrigation is available, a very short set of just a few hours (no more than 6 to 8) will replenish what is being used and provide a little wetting. Why 6 to 8 hours; just a guess, but for most systems that can provide a fair amount of soaking without losses and allow for some flexibility, in case the "storm door opens." Then, after 10 to 14 days, another brief irrigation of six hours plus or minus an hour or two, depending on soil texture and what weather has occurred.

There have been a few warm afternoons recently and with dry soil conditions there could be an early bloom in the almonds (before Feb 15) and an early budbreak for grapes (before March 15).

In both situations some early irrigation can help slightly, to store day time heat. Just to review some old, but good information on soil conditions and cold during a spring frost event from past Farm Advisors Jim Kissler and Don Rough:

* Firm bare ground, that is wet... +2º F
* Firm bare ground, that is dry ... ---
* Freshly disked soil ..... -2º degrees colder
* High cover crop ..... -2º to 4º
  (24 to 30 inches) (possibly 6 to 8º colder)
* Low cover crop ..... -1º to 3º degrees colder
  (less than 24 inches)
* Mowed cover crop ..... -½º F



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Last year was the first year since 1972 that frost occurred statewide. But the following summary of historical cold events of more than the localized frost of the last 36 year shows that it is good to be prepared.

Historical Dates of Last Frost

1933	Late April
1961	April 19 and 20
1964	April 24
1972	March 26, 27, and 28
1983	April 13
1984	April 20
1997	April 5
1999	April 9
2001	April 8
2008	April 15, 20 and 24

Weed growth is more than last year as temperatures have been more normal and rainfall abundant, but the fall and early winter were dry enough to slow general weed development. Good control should be achievable with some normal rainfall patterns with Mother Nature's help. There are some newer materials available and rotation or selection for particular weed species should be considered. If you have questions, check in at www.ipm.ucdavis.edu or www.wirac.ucdavis.edu .

Be on the watch for gophers as they remain active and are already establishing new burrows. Trapping, baits, or even a couple of good cats can reduce population levels. Gopher populations were high last year and these may carry over into this year. Ground squirrels may become active soon with the warm, dry weather. Unfortunately, they begin feeding on seedling grasses, but can be dealt with by initial baiting with toxicant-free bait to get them used to feeding in order to take actual control bait. Smoke bombs in burrows or acute lead poisoning with a long rifle also work.

As spring arrives, be aware of soil moisture conditions and plant water demand, but be careful about "getting too far ahead". If there are soil problems to deal with such as pH issues or water infiltration, soil amendments or physical mixing may be needed. After plant growth is well developed and temperatures have warmed up, the macro-nutrients nitrogen or potassium can be effectively used. For vines, that's after bloom; for almonds, after petal fall. For micro–nutrients, earlier is better, as early spring growth is needed for efficient uptake of nutrients such as zinc and boron. Besides the cost efficiency more attention is being directed to anything that goes on the ground with a potential for leaching by irrigation or rainfall.

At least there is some good news in that fuel prices have fallen and even though on the rise again are more in line with the recent past. It looks like many costs may be moderating due to economy slowdown such as bees, fertilizer (except for potassium), labor, and other inputs based on petroleum or steel.
A thought to end on is that history does seem to repeat itself and possibly we (certain persons not involved in agriculture or small business) will learn to remember

"The budget should be balanced, the Treasury should be refilled, public debt should be reduced, the arrogance of officialdom should be tempered and controlled, and the assistance to foreign lands should be curtailed lest Rome become bankrupt. People must again learn to work, instead of living on public assistance." **Cicero - 55 B.C.**

Paul S. Verdegaal, Farm Advisor

Calendar of Events

Supervisory Training Seminar (Spanish)
Thursday, February 26, 2009 1:30 to 5 pm
Stanislaus Ag Center, 3800 Cornucopia Way, Modesto
Contact: Gregorio Billikopf (209) 525-6800
see more information on page 12 of this newsletter

Symposium on the Sacramento-San Joaquin Delta
Saturday, February 28, 2009 8 am to 4 pm
Wine and Roses Hotel, 2505 W Turner Rd., Lodi
Contact: www.restorethedelta.org

Large and Baby Lima Bean Council Meeting
Wednesday, March 11, 2009 8 am to 4 pm
Robert J. Cabral Agricultural Center, 2101 E. Earhart Ave., Stockton
Contact: Nathan Sano (559) 591-4866

San Joaquin and Stanislaus Rice Grower Meeting
Friday, March 13, 2009 8:30 to 11:30 am
Robert J. Cabral Agricultural Center, 2101 E. Earhart Ave., Stockton
Contact: Mick Canevari (209) 953-6100

California Dry Bean Annual Meeting
Thursday, March 19, 2009 1 to 5 pm
Robert J. Cabral Agricultural Center, 2101 E. Earhart Ave., Stockton
Contact: Mick Canevari (209) 953-6100

Niche Meat Conference
Thursday & Friday March 26 & 27, 2009
Stanislaus Ag Center, 3800 Cornucopia Way, Modesto
Contact: Theresa Becchetti (209) 525-6800

Dairy Herdsman Shortcourse
April 21-23, 2009
UCD Veterinary Medicine Teaching and Research Center, 18830 Road 112, Tulare
To register contact Gerald Higginbotham, UCCE Dairy Advisor, at (559) 456-7558 or register online at:
cefresno.ucdavis.edu/Dairy/Dairy_Herdsman_Shortcourse.htm

Beef Improvement Federation Research Symposium and Annual Meeting
April 30-May 3 ,2009
Sheraton Grand Sacramento, 1230 J Street, Sacramento
Registration and information at:
www.calcattlemen.org/bif2009.html

Walnut Dehydrator Workshop
Wednesday, April 8, 2009 9:30 am to 3 pm
Robert J. Cabral Agricultural Center, 2101 E. Earhart Ave., Stockton
Program and registration details forthcoming in a future mailing.
Contact: Joe Grant (209) 953-6100

CONTACT US!

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By email *cesanjoaquin@ucdavis.edu*

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Irrigating Alfalfa with Limited Water Supplies

The crop water use or evapotranspiration (ET) is the evaporation of water through leaves of the plant in addition to evaporation from the soil. The seasonal water use or ET of alfalfa in the San Joaquin Valley (SJV) is about 54 inches per acre.

Alfalfa yields are tied directly to irrigations and reductions in water will proportionally lower yields. In addition to yield reduction, there may be some negative long term effects of dry soils and hot conditions. Studies have been conducted in the Imperial Valley, San Joaquin Valley, and intermountain areas evaluating the best options available for alfalfa growers to cope with a reduced water supply.

The bottom line is that yields will be reduced compared to normal water supply conditions.

Three options for Irrigating Alfalfa with Limited Water Supplies

Reduce acres option. The amount of irrigated acres is based on estimated water supply.

- The amount of acres irrigated is divided by the amount of available water at 54 inches/acre.
- No irrigations are made on the remaining acres, which will result in a substantial yield loss.

Early irrigation/ late deficit option. Normal early season irrigation and then no irrigation once water is cut off.

- Fully irrigate the entire field during the early season, which usually provides the highest yield and forage quality compared to midsummer harvests.
- The irrigations will continue after harvest until water is cut off.
- No irrigation of the later harvests, which will result in a yield loss.
- The critical irrigation is the first irrigation after a cutting.

Deficit irrigation. Distribute a reduced water supply over the entire field throughout the crop season.

- Irrigate the entire field with a reduced amount of irrigation water. This can be done by either decreasing the number of irrigations between harvests (suitable for flood or sprinkle irrigation) or decreasing the amount applied per irrigation (best suited for sprinkle irrigation).
- Yield will be lower over the entire field. Lower yields may increase harvesting costs per ton.

Which Option is the Best?
A yield and economic comparison of the three options, showed option #1, reduced acreage and option #2, early irrigation followed by late deficit as both viable for the San Joaquin and Sacramento Valleys. However, the possibility exists that the allocation of water supply may be cut off during the last half of the crop season. Thus, the early irrigation/ late deficit method reduces the risk and ensures an early water supply.

Stretching a Limited Water Supply by improving irrigation efficiency.
Tail water runoff is the main loss of water with flood irrigation. Runoff can be greatly reduced by cutting off the irrigation set when the water reaches 80 to 90 percent of the field length. This distance will vary by irrigation volume, soil type and field length but without question will improve your irrigation efficiency and stretch a given amount of water over a greater portion of the field.

Mick Canevari, Farm Advisor
Blaine Hanson, UC Davis Irrigation & Drainage Specialist (brhanson@ucdavis.edu

Livestock Lines Revisited...

As I'm typing this, it is starting to rain. Rain that we very much need. Hopefully by the time you read it we have received quite a bit. For this newsletter I wanted to touch on a few different topics and mention upcoming meetings.

California Drought Workshops – there will be two workshops offered to discuss different drought tools that are being developed by the National Drought Mitigation Center to help farmers and ranchers make management decisions and communicate the impact of a drought to decision makers in DC. If anyone is interested, more information and registration can be found at: http://drought.unl.edu/registration/CA2009/caregistration2009.html

I will again be monitoring for peak standing crop, a "low tech" method of determining impacts of weather on rangeland vegetation, this spring. If you would like me to clip at your ranch, please call me in the Modesto office.

Marketing – For anyone interested in discovering different methods of marketing to possibly improve your bottom line, we will again be holding the Niche Meat Marketing Conference in Modesto March 26-27, 2009. We have designed the Conference around feedback from the last two conferences and are very excited about the program. There will be plenty of time for networking and discussions with many producers in the state that have successfully built their own niche market. Conference registration will be mailed to all that receive the Livestock Lines, so if you are not already on my mailing list, please call me and make sure you are added.

Research wrap up – During the 2007 irrigation season, Livestock Advisors from Stanislaus north to Siskiyou County conducted a research project looking at pasture quality and potential water pollution. We have just finished analyzing the data. Briefly what we did was compared clipped forage analysis with a protocol from the Grazing Animal Nutrition Lab (GAN Lab) from Texas A&M.

Some of you may be familiar with the GAN Lab through the NRCS's NUTBAL. Basically you send a composite manure sample to the lab and they are able to determine the forage quality that the cattle are consuming. If you made it to the Livestock Forum, you heard about the results of the project; if you missed the meeting, some highlights are below.

Forage analysis showed most pastures were adequate for energy requirements for fall calving cows, but most were not sufficient for spring calving. However, GAN Lab results showed that cows were selecting a diet that did exceed their requirements for fall and spring calving as well as above required energy for a 2 lbs/day stocker gains. Since the GAN Lab is basing their analysis on "What comes out represents what went in", results reflect the cow's ability to selectively graze a pasture, moving from patch to patch selecting clovers as well as different grasses. Our clipping was random, and consisted of whatever forage was within our 1 square foot quadrat. All of the sampled pastures were within or above the crude protein requirements for cattle, and for most pastures, crude protein was substantially above the requirements, in one case, over 15% above. Comparing the two different methods, the GAN Lab reported higher levels of crude protein (CP) than the forage analysis. Again, the cows are able to selectively graze to ensure their requirements are being met. Interesting to note, we had a combination of fertilized and unfertilized pastures. This suggests that our irrigated pastures are receiving enough N through nutrient recycling by the cows, as well as added N from any legumes in the field and do not need additional commercial fertilizer. Be sure to watch for an upcoming Livestock Lines for more on results from this project.

Theresa Becchetti, Livestock Advisor

Deficit Irrigation Strategies for Processing Tomatoes

A variety of research projects on tomato irrigation conducted over the past 20 years can provide guidance to processing tomato growers looking for ways to stretch water resources. Here is a brief discussion of some important points:

1) What constitutes full irrigation?

The consumptive use of processing tomatoes (the total amount of water transpired by the crop or evaporated from the soil) typically runs between 24 and 28 inches. Daily water use is driven by environmental factors accurately represented by reference evapotranspiration (ETo) values available for many Central Valley locations from CIMIS: www.cimis.water.ca.gov, and the degree of ground cover by crop foliage (heating by sunlight interception is a primary driving force for plant transpiration). Fig. 1 shows the typical pattern of crop evapotranspiration (ETc) for a drip-irrigated processing tomato crop on which no water stress is imposed. The major difference with non-drip irrigated fields is that in the early season (before there is substantial foliage cover) sprinkler or furrow irrigation will increase evaporation from the wetted soil surface. By mid-season crop water use can be slightly higher than ETo, but as the crop matures water use tends to decline.

2) Imposing deficit irrigation

A tomato crop is most sensitive to water stress during fruit set, and attempting to save water by reducing irrigation during fruit set is strongly discouraged. Even moderate levels of soil moisture deficit during fruit set can substantially reduce that set, and induce blossom end rot. However, once fruit set is complete (roughly the time that the earliest fruits are reaching the mature green stage, typically 5-6 weeks preharvest), a substantial level of moisture stress can be imposed with minimal loss of productivity. Fresh fruit yield may decline a few tons per acre, but an increase in soluble solids concentration usually results in little or no decline in brix yield.

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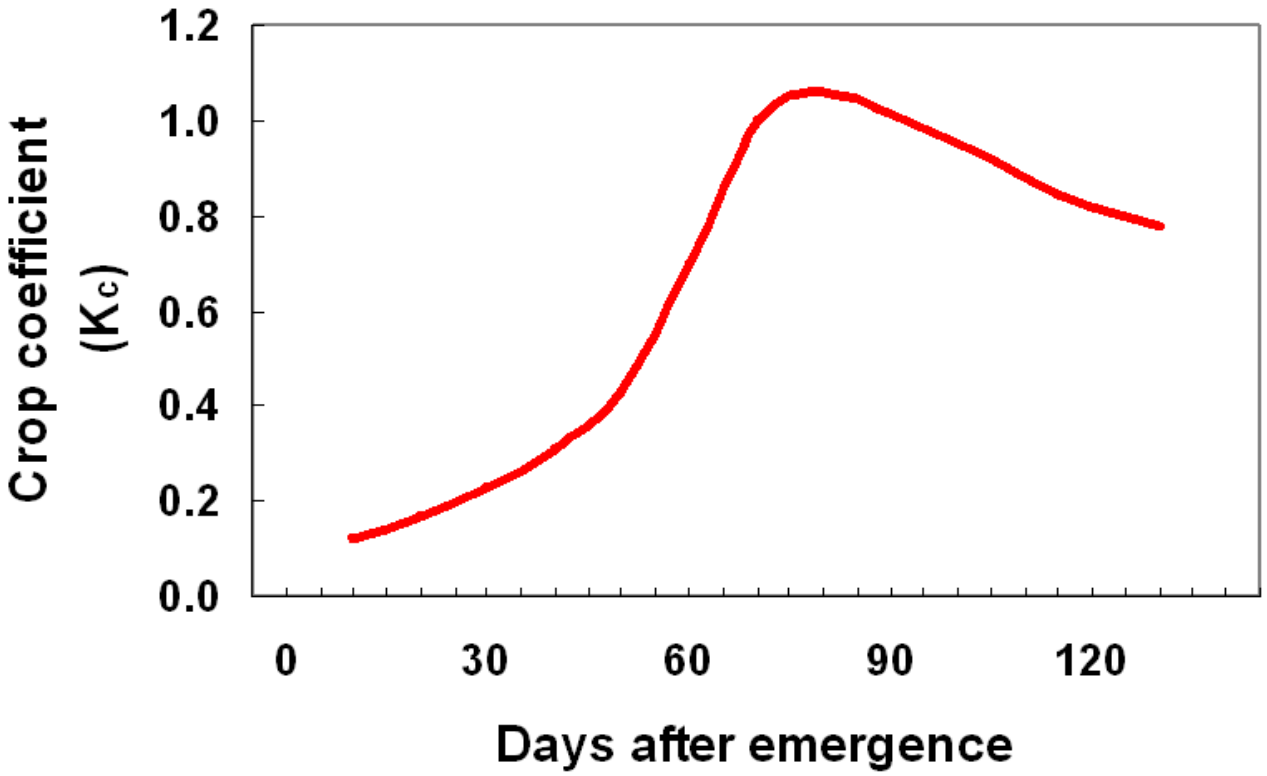


Fig. 1.
Crop evapotranspiration of a drip-irrigated tomato field as a percentage of reference evapotranspiration (ETo).

(Continued from page 8)

The degree of deficit irrigation possible without loss of brix yield depends on a number of factors, primarily soil water holding capacity and the presence or absence of a shallow water table. As is clear from Fig. 1, the average crop water use during the fruit ripening period in a fully watered field is approximately 80-90% of ETo. Most fields can tolerate irrigation of only 40-60% of ETo during this period with minimal problem; fields with high water holding capacity and good rooting depth may be able to deal with as little as 25% of ETo over the final 6 weeks.

The ability to precisely control irrigation during the fruit ripening depends on the irrigation system used. For drip fields, controlling deficit irrigation is easy; simply reduce the hours of run to deliver the desired % of ETo. Within the last 10-14 days before scheduled harvest drip irrigation can be terminated in most fields without severe stress. During deficit irrigation root intrusion in buried drip systems can be a problem, so be vigilant. If harvest is delayed, small irrigations can be made to keep the vines up.

With furrow irrigation it is more difficult to precisely control irrigation volume, and consequently the primary tool for late season water management has been manipulating the irrigation cutoff date, thereby saving one or more irrigations. Extensive trials in clay loam soils in Fresno County have shown that cutting off furrow irrigation as much as 40 days preharvest will have minimal effect on brix yield (although, as previously stated, fruit yield may suffer a small decline). Even on these forgiving soils, however, earlier cutoff can lead to substantial yield loss. In fields with soil of lower water holding capacity even 40 days preharvest can be too severe a treatment. Using an early cutoff strategy can be risky, particularly if harvest is substantially delayed.

3) Using a groundwater table
In fields with a water table within 2-3 feet of the surface, deficit irrigation can result in the crop drawing as much as several inches of water from the water table, allowing for a more severe irrigation cutback or earlier cutoff than would otherwise be appropriate for the field. If the water table is non-saline, late-season deficit irrigation poses little risk of serious yield decline. However, if the water table is saline, a much larger yield loss is possible with an aggressive irrigation cutback; also, deficit irrigation at the end of the season will leave the root zone with high EC, thereby increasing next year's water requirement.

4) Use of poor quality irrigation water
Once the crop has been established, tomatoes are quite tolerant of high salinity irrigation water. Research at the UC Westside Center showed that, once flowering had begun, irrigating with drainage water of 8.0 EC did not affect fruit yield. The limited supply of high quality water can be used on other, less tolerant crops. Similarly, tomatoes are more tolerant of boron than most other common Central Valley horticultural crops, with water B concentration up to several parts per million causing little loss of productivity.

The bottom line is that irrigation reduction strategies for processing tomatoes should focus on water management during the fruit ripening period; any attempt to reduce irrigation earlier in crop development is likely to result in significant reduction in yield and/or fruit quality. Growers can take advantage of the relative salinity and boron tolerance of tomato by substituting lower quality groundwater, saving higher quality water for more sensitive crops.

Tim Hartz, UC Davis Vegetable Crops Specialist
Brenna Aegerter, Farm Advisor

Wheat Irrigation and Moisture Stress

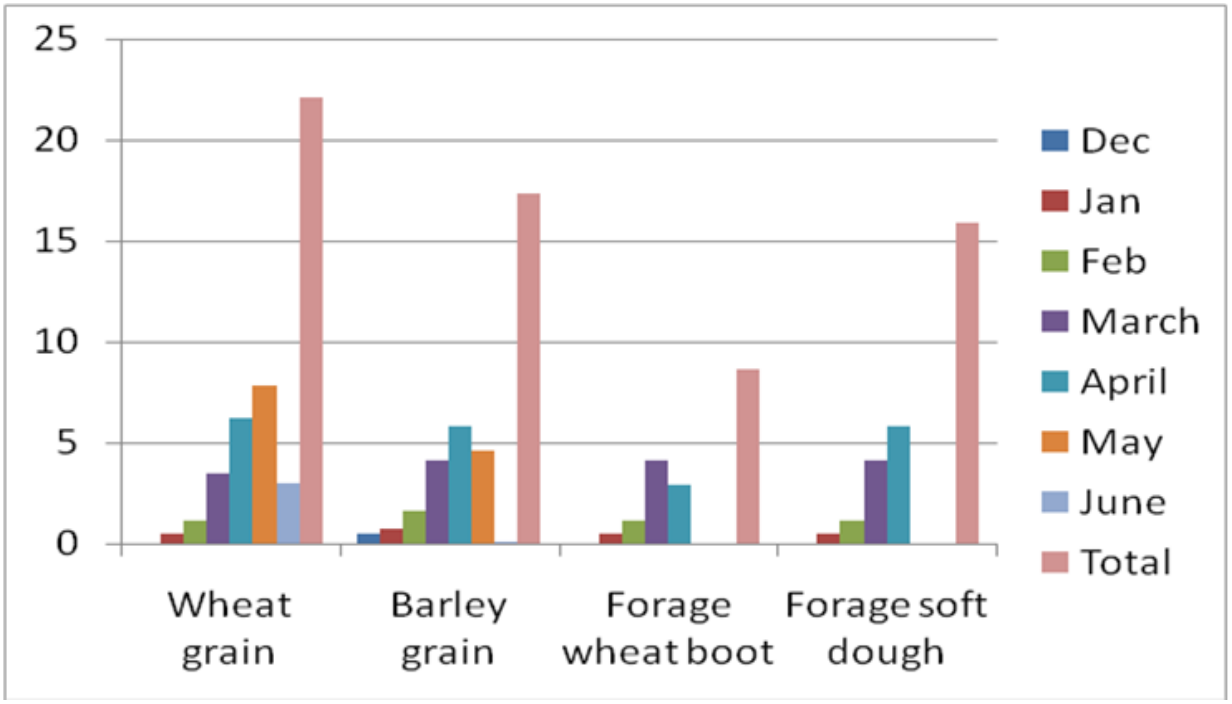
Moisture stress in wheat reduces yield and bushel weight. Yield is made as early as the tiller stage (4-8" tall), at which time the plant determines the number of spikelets per head (kernels per head). Stressed plants following emergence tend to increase the number of tillers but those tillers usually die or don't produce kernels. Moisture stress later in the season during boot stage and pollination stage results in underdeveloped kernels or sterility. During pollination, grain development is very sensitive to moisture stress and yield loss. Adequate soil moisture or irrigation is critical at this time. Moisture stress during soft dough stage results in smaller or shriveled kernels.

Water consumption for wheat varies by grain type, variety, region and climate. In the San Joaquin Valley, a typical wheat grain crop uses approximately 22 inches/acre of water (Figure 1). The amount of water generally applied will be higher by 15 to 30% depending on the irrigation method and its efficiency.

The frequency and total number of irrigations depend on soil type and other plant factors, but as a rule of thumb sandy soils can hold enough moisture for 7 to10 days and heavy soils or peat soils can store up to 25 days of adequate moisture during peak periods between March and May. The number of irrigations usually required in normal rainfall years ranges from 2 to 4 irrigations.

Mick Canevari

Figure 1. Monthly and total water consumption for small grain crops in inches/acre



Drought Tolerant Plants for Your Landscape- the UC Arboretum All-Stars

Before going to your local nursery this spring, check out "Arboretum All-Stars", a list of 100 ornamental plants recommended for California's Central Valley. This list was developed by UC Davis Arboretum staff based on observations of plant performance in Davis, California and is now available at the UCD Arboretum website (http://arboretum.ucdavis.edu). Our demonstration landscape here in Stockton at the Robert J. Cabral Agricultural Center has an entire section devoted to these Arboretum All-Stars. Highlighted in this article are five of these that can be seen in our demonstration landscape this year.

Blue gramma grass (*Bouteloua gracilis*)
Major interest- Low water/maintenance

Blue gramma grass is a California native perennial warm season grass for meadow-like lawns. Blooms look like eyebrows that last from summer through the end of fall. Plant this grass in full sun to partial shade. Blue gramma grass only needs to be cut back once a year in late winter when the blooms are spent and look spindly. Pruning is similar to most ornamental grasses. Use hand shears and cut the grasses as close to the ground as possible leaving around an inch of the old shoots showing above the soil line. If the foliage has begun to grow you are pruning too late. Consider growing this plant in areas with little irrigation (twice a month in the summer), garden areas you need height/interest, or as a transition from two different bold color palettes (E.g.: purple to red).

California white sage (*Salvia apiana*)
Major interest - Attract Bee pollinators and low maintenance

California white sage is a California native perennial that blooms white flowers in the spring, and has fragrant oils on the leaves. White sage prefers full sun, very little water (twice a month in the summer) and maintenance involves removing old flowers once a year.

California lilac 'Valley Violet' (*Ceanothus martimus* 'Valley Violet')

Special interest: Dark violet blooms that attract beneficial insects

This California native is considered the best small ceanothus for the central valley. Produces dark violet blooms in spring with lots of color. Ceanothus 'Valley Violet' needs very little water and may need pruning once after spring to shape up after the blooming season is over.

California lilac 'Marie Simon' (*Ceanothus x pallidus* 'Marie Simon')
Special Interest: Attracts bees and beneficial insects

This medium-size shrub is a valley-adapted non-native, with light pink blossoms in the spring on reddish colored stems. Water needs are low to very low, and this bush may be planted in full sun or partial shade. Prune in early spring to remove flower stalks and shape.

Chinese fringe tree (*Chionathus retusus*)
Major interest: White fragrant flowers, little to no pruning

Chinese fringe tree is not a California native, but can survive on low watering in the summer in California. It is a small tree that grows from 15 to 25 feet tall with a similar canopy width. Besides only needing small amounts of pruning for shaping, it has no known diseases. Flowers look like fringe from curtains on the tree, hence the name fringe tree. This easy to grow tree also has winter interest with attractive peeling bark.

Photos in this article courtesy of Ellen Zagory, UC Davis Arboretum

Ashley Basinger

Supervisory Training Seminar (Spanish)

Who should attend: this seminar is designed for new as well as experienced Spanish-speaking farm supervisors, including foremen, herd managers, and crew leaders.

Topics to be addressed: Through active participation, including role-plays and cases, we will cover three vital supervisory skills:

- **Avoiding the accommodating syndrome**. Supervisors will learn that in order to gain the respect from workers that they so much desire, they must learn to defend company policies and take tough stands when necessary. They will learn about the importance of listening carefully to the needs of employees and how to communicate these to management. Also, they will learn to foment effective two-way communication between management and employees.

- **The power of sincere praise**. Supervisors will learn how to give the type of powerful praise that will increase worker performance over time.

- **Correcting employees so they retain their dignity**. Supervisors will learn how to correct employees and permit them to maintain their dignity and save face. They will learn, also, that employees will not value praise, or take it as seriously, unless they also receive constructive help in improving undesirable behaviors.

Date and time: Thursday, February 26, 2009, from 1:30 – 5 PM. Plan to check in any time after 1 PM.

Instructors: Gregorio Billikopf and Ryan Boothe.

Location: Modesto – Ceres. Agricultural Complex (Rooms H & I, located inside the Stanislaus Building, first floor): 3800 Cornucopia Way, Modesto, CA 95358. Here is a map and directions to the Agricultural Complex: http://nature.berkeley.edu/ucce50/ag-labor/7map.htm

Registration fees: $26 per person at the door (includes a copy of the book *Labor Management in Agriculture* in Spanish or in English and other materials). Please make checks out to *UC Regents*. We are not able to take credit cards at this time.

Early registration discount: If you send in the registration early, and it is *postmarked on or before February 13*, the seminar fees are $16 per person. Each participant will receive a copy of the book and additional materials. We are not able to take credit cards at this time. Please make checks out to *UC Regents*. Fees will not be reimbursed for cancelations, but you may substitute participants at any time.

Room limitations: Attendance limited to the first 42 people who register.

Questions? You may e-mail gebillikopf@ucdavis.edu or call 209-525-6800 with any questions.

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Registration Form:

Make check payable to ***UC Regents***:

Mail with completed Registration Form to:

Supervisory Seminar
University of California
c/o Gregorio Billikopf
3800 Cornucopia Way # A
Modesto, CA 95358

We will be sending _____ participants to the supervisory training seminar on Thursday, February 26, 2009, from 1:30 to 5 PM.

We are enclosing a check for $_____ [ ] $26 per person **OR** [ ] $16 per person (if postmarked *on or before* February 13)

Name of participant (please indicate if this person will most likely want his or her book and other materials in English or Spanish).

1. _____ [ ] Spanish [ ] English

2. _____ [ ] Spanish [ ] English

3. _____ [ ] Spanish [ ] English

4. _____ [ ] Spanish [ ] English

5. _____ [ ] Spanish [ ] English

6. _____ [ ] Spanish [ ] English

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Notes from the Field

February 2009