Integrated Cranberry Crop Management for Wisconsin

Cranberry

Crop Management Newsletter

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Contents:

LABOR IN CRANBERRY PRODUCTION

Two Surveys of Production Costs in Agriculture recently caught my eye. First is the Agricultural Resource Management Survey (ARMS), a survey of 34,200 farms across the U.S (Figure 1.) This survey includes all types of farms including livestock, cash grain, and horticulture. The survey that makes interesting comparison with the ARMS survey is the North American Cranberry Cost of Production Study sponsored by Farm Credit Services and Ocean Spray Cranberries, Inc.(Figure 2.) This survey was completed in 2002 and included 51 growers representing 5% of U.S. production.

Although the two surveys broke out production expenditures slightly differently they both included several broad categories such as labor, chemical and fertilizer, rent and taxes. Livestock agriculture has an entire category, feed, that is not an input on a marsh, so that shows up in "other" on the following charts. Labor costs stand out as being noticeably different between Cranberry production and agriculture in general.

Are you a good manager of labor? Do have the "right" amount of labor on your marsh? Do you have the labor when you need it? Is your labor happy, motivated and highly productive? Labor is a very critical component to the success of the marsh, if you manage labor, or you are the labor you still provide valuable insight on how to get more from the labor input.

The researchers of the Cranberry survey also commented, "The cost to grow cranberries on a per acre basis doe not correlate strongly with yield and appears to be fixed per acre regardless of yield achieved." It is interesting to note that marshes that averaged over 250 barrel per acre utilized the most labor with 23.9 acres per full time equivalent compared to the survey average of 28.7 acres per worker. This correlation also is not absolute as the lowest producing marshes, those yielding below 120 barrels per acre also used above average amounts of labor at 27.5 acres per full time equivalent.

In 2002 hired labor and benefits averaged $1,453 per acre or $9.48 per barrel. Benefits were 15% of the value of cash pay. Working the numbers further shows that at 29.3 acres per full time equivalent and labor expenditures of $1,453 per acre that wages average $37,000 per worker and $5,567 in benefits. Cranberry worker pay averages $12-$15 hour with an additional $2-3

hour in benefits. It is not possible from the data to determine if high producing marshes pay more for more highly skilled labor on an hourly basis, we only know that the labor is spread a little less thinly over the acres.

Work on the marsh can involve long hours in challenging conditions. In addition many of the tasks such as applying pesticide, maintaining and operating large equipment require skilled workers. The numbers generated above are somewhat enviable compared to what other agricultural workers earn. A 2003 study put the average wage of milker labor at $9.25 per hour. (Encino, University of California, 2003)

Matt Lippert, Wood County Agriculture Agent

Figure 1. Cash Expenditures; Agricultural Resource Management Survey, USDA 2004.

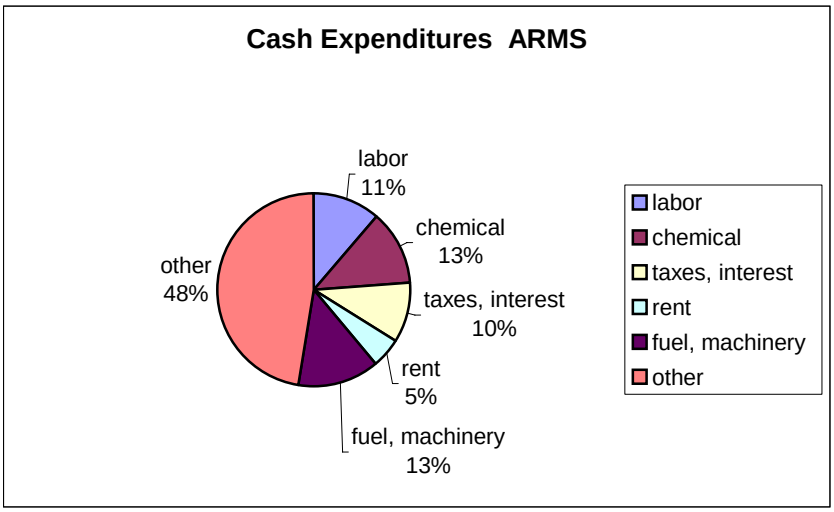
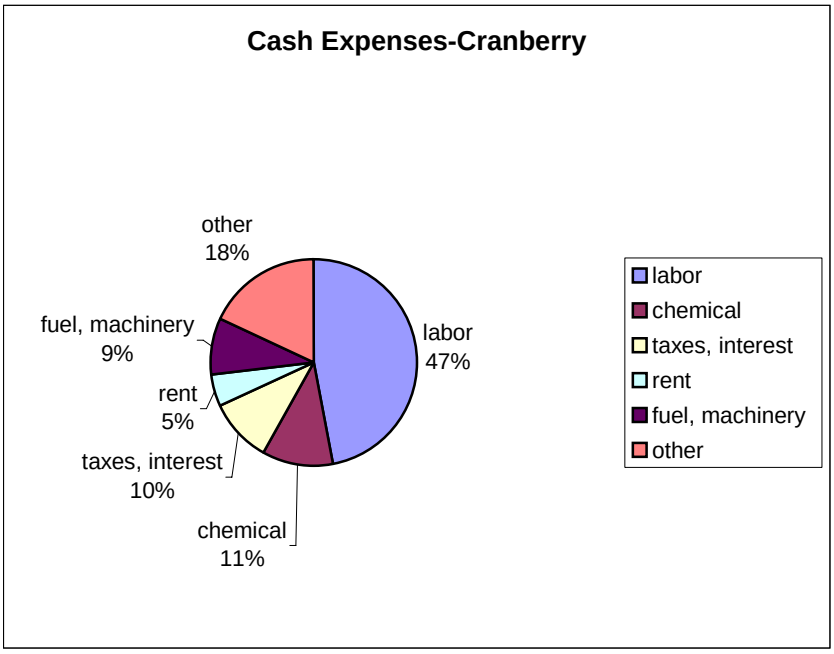


Figure 2. Cash Expenses, The North American Cranberry Cost of Production Study; Farm Credit Services and Ocean Spray Cranberries, Inc. 2002



Notes from the Cranberry Bed

Yellowing Vines: We are seeing a great deal of yellowing this year. This HEAT related phenomena play no favorites. It strikes Ben Lear, Stevens, Searles, McFarlin, Pilgrim and most other varieties. Some growers feel that it is more water related than DROUGHT/HEAT as it seems to start where there may be a dip or low area in the bed. Some growers feel that water may puddle there and when we get that HEAT it steams and then cooks vines. It starts out yellow and seems to happen over night. Then it turns from yellow to a brown color, moving from the heart out to the edges of yellowing area. Look around your own marsh and see what kind of pattern may be developing. See if this scenario is true for you.

Generally fruit size is better than 2004 for this July date. With warm weather in the forecast I believe we will not see the dormant cast that we saw last August as temperatures cooled right down and sizing came to a stand still in 2004. As you may recall we didn't get warm sizing weather until September last year and then I feel that it was too late and too short. 2005 is an all together different year! Some of our marshes have the same size fruit today as they did at Harvest time in 2004!

Flea Beetle is striking quickly and feverishly this late July. In areas of concern we have swept up to 30 in a series of 20 sweeps. We are seeing leaf skeletonizing and areas that are similar to Black headed Fireworm burn. Sevin XLR seems to work very well on this pest. To be honest with you, Flea Beetle prefer weeds but for some odd reason they are attacking our cranberry plants. Remember that when we mow our dikes we may be sending this pest into the beds. They may have been working on weeds on the dikes and when we destroy their feeding ground they look elsewhere!

A success story on Sparganothis control this year is Spintor. We used 8 to 10 ounces of this product per acre and we were so pleased with its results. Even though this is a pricey item, it truly paid for itself with this specific challenge.

Controlling Cranberry Fruitworm was a different story. Timing the control of this pest was the key once again in 2005. When we looked at all the control measures that we used, Orthene came out at the top for our favorite. The challenged that we faced this year is that most of us went in and out of bloom so fast. Bee keepers had a real tough time getting bees out because the banana belt was neck in neck with Cranmoor during spray times. Typically we have 5 to 7 days difference so bee keepers and chemical suppliers had a little lead time. With the steady stretch of unusual HEAT Our plants and insects were more advanced than I can remember.

ROT: Remember that this time of the year it is important to allow the duff area of the bed to dry out a little. When we create an environment that is always wet we see more rots. Check to see how much moisture our fruit has on the underside when you are checking soil moisture. Growers share that at this time of the year they water only in the morning hours instead of their evening ritual, as in the evening the plant and fruit are in a saturated environment for 12 hours or so, but in the morning their thirst is quenched but the environment is theoretically dryer as the sun and heat dry things up. Experiment on your own marshes.

Jayne Sojka, Lady Bug IPM

One father is worth more than a hundred school masters.

George Herbert

Wild Geranium and Grass-leaved Chickweed in Wisconsin Cranberry beds

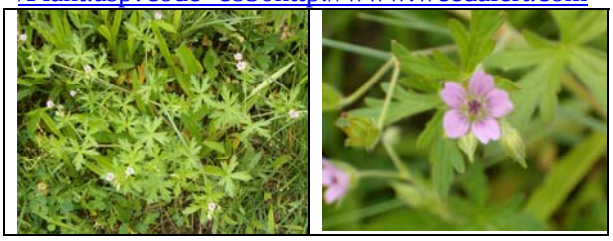
I am back again to discuss a couple more weeds that are appearing in Wisconsin Cranberry beds. This season we have been seeing a few unknown weeds popping up here and there. It's taken some time for some of them to be identified but we now have them.

Wild Geranium (*Geranium maculatum*)

This geranium grows easily in many soil conditions, from medium to wet or well drained. It also tolerates full sun to part shade. The Wild Geranium is a clump forming plant native to woodlands. It is an herbaceous perennial that can be found in zones 3 to 8. It has showy, pink, five-petaled flowers, which occur at the top of the geraniums, leafy 1-3 foot stem. This perennial is well known for its leaves also. Their leaves are palmate with 5-6 lobes.

Pulling or digging can remove individual plants. Removal should be done prior to flower and seed formation. The plants may also be wiped with roundup but before the plants flower to insure there is no seed formation.

http://www.mobot.org/gardenignhelp/plantfinder/Plant.asp?code=c850http://www.weedalert.com



Grass-Leaved Chickweed (*Stellaria gramninea*)

This perennial plant is 1-1½ feet tall, largely unbranched, except at the apex, where the flower occurs. The central stem is very weak causing the plant to lean over in the absence of other vegetation for support. It has opposite leaves that are up to 1½ inches long. They are linear in shape. Each flower is about 1/3 of an inch across with five deeply divided white petals almost appearing as ten petals. There is usually a large abundance of the tiny flowers. The seed capsules are light brown. This plant spreads vegetatively or by reseeding itself and it is often seen in small colonies or clumps.

Control of this weed must occur early on before flower set and definitely before seed set. Since growth is supported by neighboring vegetation wiping is probably not best approach as it would probably kill more cranberry vines than chickweed. It pulls easily but also breaks at soil level just as easily, leaving rhizomes to produce new shoots.

http://www.illinoiswildflowers.info/weeds/plants/gr_chickweed.html

Becky Everson, Lady Bug IPM intern

Human nature will not change. In any future great national trial, compared with men of this, we shall have as weak and as strong, as silly and as wise, as bad and as good.

Abraham Lincoln

PRE-HARVEST INTERVALS

While harvest is still some time off, now is the time to think about pre-harvest intervals to assure that any pesticide residues remaining on fruit are within the legal tolerances. A listing of the pre-harvest intervals and re-entry intervals for pesticides labeled for use in Wisconsin is found on page 11 of *Cranberry Pest Management in Wisconsin* (A3276). You'll want to review this information throughout the year as you make decisions about what pesticides to apply and when. Part of the table is reproduced below.

Pesticide	Preharvest interval (days)
Aliette	3
Abound	3
Bravo	50
Carbamate	<28 d after mid bloom
Confirm	30
Diazinon	7
Dithane & EBDC's	30
Funginex	60
Fusilade 2000	365
Guthion	21
Imidan	14
Lorsban	60
Mancocide	30
Marlate	14
Orbit	45
Orthene	75
Poast	60
Ridomil gold	45
Roundup	30
Select	30
Sevin	7
Stinger	50
Touchdown	365

Please note that most of the pre-emergent herbicides are not listed in this table because if applied during the dormant period either in late fall or early spring the pre-harvest interval is not relevant.

Teryl Roper, UW-Madison Extension Horticulturist

HUMAN HEAT STRESS

There are numerous precautions that employers can take against heat stress. Some of them are summarized here:

Training. Train workers and supervisors in how to control heat stress and to recognize symptoms of heat illness.

Monitoring and Adjusting Workloads. Take into account the weather, workload, and condition of the workers, and adjust work practices accordingly. Higher temperatures, high humidity, direct sun, heavy workloads, older workers, and workers unaccustomed to heat are more likely to become ill from heat. Here are things to do:

- Monitor temperature and humidity, and workers' responses at least hourly in hot environments
- Schedule heavy work and PPE-related tasks for the cooler hours of the day
- Acclimatize workers gradually to hot temperatures
- Shorten the length of work periods and increase the length of rest periods
- Give workers shade or cooling during breaks
- Halt work altogether under extreme conditions.

Drinking. Make sure employees drink at least the minimum required amounts of water to replace body fluid lost through sweating. Thirst does not give a good indication of how much water a person needs to drink.

From the EPA website.

IRRIGATION WATER SURVEY

We are starting to study the contribution of irrigation water nitrogen inputs to problems with excess vine growth in some upland cranberry marshes. Preliminary information suggests that high nitrate loads may be a contributing factor. We would like to do a one-time survey of irrigation water nitrogen content this summer. If you are interested in participating, please call Kevin Kosola at 608-262-6452, or email me at kkosola@wisc.edu, indicating that you are interested in the irrigation water survey.

Kevin Kosola, UW-Madison, Dept. of Horticulture

SUMMER FIELD DAY

The 2005 Cranberry Field Day will be held in Warrens, Wisconsin on Wednesday August 10. Headquarters will be near the Cranberry Discovery Center. The host marsh for the event is the Gebhardt and Whiskey Creek Cranberry Companies. This is a great opportunity to visit with vendors, and to network with other growers, besides seeing a very well run marsh. Put this date on your calendar and plan to attend.