UNIVERSITY OF ILLINOIS EXTENSION

College of Agricultural, Consumer, and Environmental Sciences

Illinois Fruit and Vegetable News

Vol. 11, No. 8, May 24, 2005

a newsletter for commercial growers of fruit and vegetable crops



"We are what we repeatedly do. Excellence, then, is not an act, but a habit." Aristotle

Address any questions or comments regarding this newsletter to the individual authors listed after each article or to its editor, Rick Weinzierl, 217-333-6651, weinzier@uiuc.edu. The ***Illinois Fruit and Vegetable News*** is available on the web at: http://www.ipm.uiuc.edu/ifvn/index.html . To receive email notification of new postings of this newsletter, call or write Rick Weinzierl at the number or address above.

This issue's words of wisdom ... which usually means the jokes ... are at the end of newsletter. Check the last page.

In this issue ...

Crop and Regional Reports

In the south and southwest ... it's getting warm, and in most cases that's a welcomed event. Some areas have missed getting some much needed rainfall, but overall no serious droughts have been reported yet. Peaches had one last surprise for many growers, and that was false bloom. Several peach growers have reported an early drop, indicating that not all the visible fruit was truly viable. Chris Doll showed me a branch that had at least 10 fruit on it, but only a few were viable and increasing in size. The remaining fruit had stopped growing, making them quite noticeably different in size.

The peach orchard tour at Jackson's Orchard in Bowling Green, KY on May 13th was enjoyed by growers and university staff from five surrounding states, and the weather cooperated 100%. Thanks to Bill Jackson and his family as our host, and also to University of Kentucky staff for providing the informational programming. As in Illinois, Kentucky growers are experiencing winter injury to the peach crop, and fire blight is evident there as well. One thing I noticed our southern neighbors seem to do better though, they sure do know how to build a smooth road.

The frost experienced by many growers on May 2 and 3 is still impacting several fruit crops, particularly those in the central and northern regions. Many grape growers experienced some level of damage to primary growth, and now have uncommon growth parameters to deal with. Lateral growth is pushing on partially killed primary growth, and 2nd, 3rd, and 4th level buds are all breaking. Vineyards have already started assessing new growth since the freeze, and are moving forward with pruning for proper canopy management. As one grower put it "we can grow porcupines, or we can grow grapes." Just as a reminder, the next grape workshop for Central Illinois is scheduled for June 25 in Oakford, Illinois, and canopy management will be the focus. For details as they become available, go to http://web.extension.uiuc.edu/regions/hort/ .

For strawberry growers reporting a total loss of crop, renovation is appropriate at this time. Continue to irrigate plants through the spring and summer to insure the best regrowth going into the 2006 season, and maintain necessary disease and weed control programs.

A last-minute reminder for those who will see this issue on the web before May 26 ... a second twilight meeting for tree fruit growers is being held May 26 at Kamp's Orchard from 5:30-7:30 pm. Kamp's Orchard is just over 7 miles south of Brussels, just off the Illinois River Road. Heading south out of Brussels, go approximately 7.2 miles, and turn right on 2150 E. *If you are coming from the Brussels ferry, stay on the Illinois River Road and go approximately 4.1 miles to 2150 E, and make a left. Kamp's is located where 2150E tees into Aurer Landing. Make a right at the tee (Aurer Landing), and Kamp's is the first house on the left.

Elizabeth Wahle (618-692-9434; wahle@uiuc.edu)

In northern Illinois, the middle of May has seen mostly cloudy days, with day temperatures in the 70s and night temperatures in the 40s to 50s. The region received about 1 inch of rainfall during this period.

Apples and pears are in fruit set, while peaches are at shuck split. Shoot growth in grapes now exceeds 4 inches. Orchardists are going on with the second cover sprays, and the effects of freezing temperatures that occurred during the first week of May in northern and central parts of the state are now evident. On some farms there is no peach crop, while at others there are a few. Some apple varieties lost all the blossoms before pollination, while others managed to retain their blossoms, and new blossoms are coming up in some varieties that were affected by the frost. Most growers have completed their first plantings of sweet corn, and transplanting of peppers, cucumbers, melons, and tomatoes is ongoing.

Maurice Ogutu (708-352-0109; ogutu@uiuc.edu)

Food Alliance Certification

The May 23, 2005, issue of Minnesota's Fruit and Vegetable IPM News includes a guest article by Ray Kirsch of Food Alliance. The article introduces Food Alliance and how Food Alliance Certification can help to manage risks and establish premium markets. The May 23 issue of this Minnesota newsletter is on the web at http://www.vegedge.umn.edu/MNFruit&VegNews/Vol2/vol2n3.htm . To learn more about Food Alliance, check the organization's web site at http://www.foodalliance.org .

Upcoming Meetings and Programs

Here are dates of currently scheduled programs. Additional details for programs in the southern region will be posted as they become available at http://web.extension.uiuc.edu/regions/hort/ . Contact: Elizabeth Wahle at wahle@uiuc.edu or 618-692-9434

May 26, 2005. Twilight Meeting for Tree Fruit Growers
5:30-7:30 p.m. Kamp's Orchard, southeast of Brussels just off the Illinois River Road.

June 16, 2005. ISHS Summer Field Day
Edwards Apple Orchard, Poplar Grove, IL. See the previous issue of this newsletter (Volume 11, no. 7; May 10, 2005) for a detailed announcement of this program.

June 25, 2005. Viticulture Workshop
9:00-11:30 a.m. Hill Prairie Vineyard and Winery, Oakford Illinois. RSVP to Elizabeth Wahle.

August 4, 2005. Dixon Springs Agricultural Center Field Day
University of Illinois DSAC, Simpson, IL. Contact Bronwyn Aly at 619-695-2444 or baly@uiuc.edu .

September 8. 2005, Illinois Pumpkin Field Day
SIU Belleville Research and Education Laboratory, Belleville, Illinois. 10:00 a.m. -2:30 p.m.

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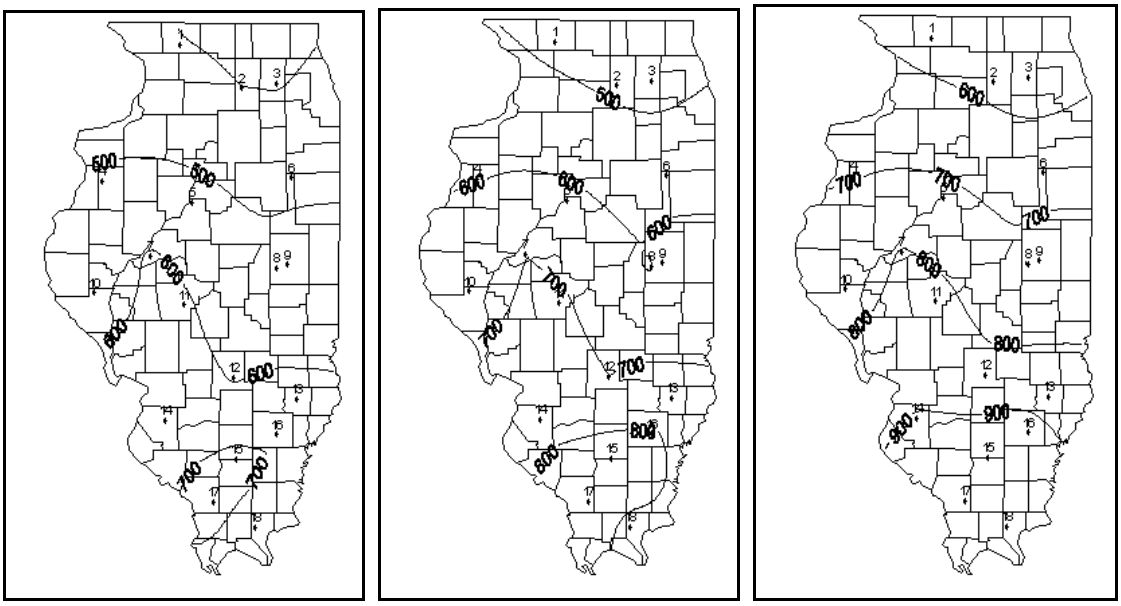
Degree-Day Accumulations

Degree-day accumulations, base 50 F, January 1 through April May 9 (historic average and 2005), and projections through May 23, 2005.

Site No.	Station	County	DD, Base 50 Jan 1 - May 23 11-yr historic average	DD, Base 50 Jan 1 - May 23 2005	Projected DD, Base 50 Jan 1 - May 30 2005	Projected DD, Base 50 Jan 1 - June 6 2005
1	Freeport	Stephenson	372	403	481	570
2	Dekalb	Dekalb	411	400	485	580
3	St. Charles	Kane	357	394	466	548
4	Monmouth	Warren	471	510	596	695
5	Peoria	Tazewell	509	537	624	726
6	Stelle	Ford	468	477	565	665
7	Kilbourne	Mason	574	607	699	804
8	Bondville	Champaign	511	499	592	697
9	Champaign	Champaign	518	549	643	751
10	Perry	Pike	558	552	644	749
11	Springfield	Sangamon	582	610	714	829
12	Brownstown	Fayette	654	591	699	820
13	Olney	Richland	635	627	733	853
14	Belleville	St. Clair	695	671	783	906
15	Rend Lake	Jefferson	751	715	834	965
16	Fairfield	Wayne	731	696	815	945
17	Carbondale	Jackson	718	715	828	953
18	Dixon Springs	Pope	784	669	786	916

Degree-day data are summarized from records provided by the Midwestern Climate Network, Illinois State Water Survey, Champaign, IL. For more information, consult the Midwestern Climate Center at http://sisyphus.sws.uiuc.edu/index.html and the Degree-Day Calculator at http://www.sws.uiuc.edu/warm/pestdata/ .



Degree-day accumulations, base 50 F, from January 1 though May 23 (left) and projected through May 30 (center) and June 6 (right), 2005.

Kelly Cook (217-333-4424; kcook8@uiuc.edu)

Notes from Chris Doll

What a difference a year makes. A year ago, we wanted the rains to stop when it rained over 10 inches in May. This year the local accumulation is 0.9 inches for the month to date. Many field crops as well as the fruit and vegetable crops could use a good spring rain. The year's difference is also visible in the peach orchards, as many varieties need no thinning or just a walk by instead of the 1000 percent fruit set in 2004. The difference in fruit set is also visible in fruit size, as the lighter set fruits have good size for the season.

There is not much difference in the phenological aspects of the major crops from last year. So the happenings in the area are that the chemically thinned apples are finally beginning to change color and drop, peaches are approaching early pit hardening, strawberry harvest has begun, grapes are blooming, and the first red raspberry has ripened.

Apple thinning results are still incomplete and it sounds like some growers lost a few more hairs or at least had them turn more gray because of the bloom and weather conditions. All varieties in this area are past the thinning stage now, so what is there will be the crop unless hand thinning is done. Many dates and combinations were used and analysis will come shortly. The worst chemical reaction that I saw was on some two-year-old trees where defruiting was attempted with a full rate of Sevin, a very high rate of NAA and some oil. Trees look like they were sprayed with a phenoxy herbicide.

I set the biofix for codling moth on May 8 and have accumulated 206 degree days on May 23. The trapping program has been pretty good with some moth numbers in the 30-40's per week. Quite a bit of Assail insecticide is being used where worms were troublesome in the past couple of years. Other insects have been very inconspicuous this spring, but some curculio damage has been seen in the past week. One grower reported more catfacing damage on peach than normal, but I see that as the exception.

Disease infections have been fairly light in the tree fruits except for fire blight. in apple and pear. As usual, fire blight infections seem to be variable and unpredictable. The streptomycin sprays appear to have helped immensely in most orchards, and Apogee appears to have helped also. So far, the twig blight has not been too severe during our dry season.

A nice tour of Bill Jackson's orchard near Bowling Green, KY was missed by many Illinois and Missouri growers recently. Bill and his family have developed a nice orchard and direct market site that includes sale of plant material in the spring and fruits until Thanksgiving. Peaches are marketed on and off the farm, but all in a direct sale mode. Increased sales and income have resulted from being a favored site for industry picnics. Heavy soils deem that peaches be planted on ridges for drainage and aeration of roots. Deer were cited as the number one problem, but the weather, like high winds, and diseases like fire blight were discussed.

The column began with comments about lack of rain here, and there are other areas with a similar problem. This spring is reminiscent of some I had in SW Iowa years ago, where I learned to water trees at planting time. A call today from a grower that said that he put 3 gallons of water on peach trees at planting time does not appear to have been enough. Soil probing under raspberries in the Back 40 reveal mostly dry soil, so watering those crops is a must. Strawberry growers that irrigated strawberries for frost control for a few nights early in the month have helped this year's crop.

Where moisture has been available, young trees are making shoot growth that can use clothes pins or toothpicks for crotch angle development. Grafted trees need to be inspected for removal of competing shoots to the graft (or bud), and also any girdling that might occur from the grafting tape

Chris Doll (EDWDOLLX2@aol.com)

Vegetable Production and Pest Management

Labels for Rimon and Assail for use on Potatoes

Among the newer insecticides labeled for use on potatoes for Colorado potato beetle control are Rimon 0.83 EC and Assail 70 WP. Neither made it into the 2005 Midwest Vegetable Production Guide (and in fact the addition of potatoes to the Assail label occurred just this month). Rimon's primary target pests in potatoes are Colorado potato beetle and European corn borer; Assail is effective against Colorado potato beetle, European corn borer, leafhoppers, aphids, and flea beetles.

Rimon (novaluron) provides an entirely different mode of action than any other insecticides used for potato beetle control. This makes it a useful compound for insecticide resistance management. Assail (acetamiprid) is a neonicotinoid – the group of insecticides that includes Admire/Provado (imidacloprid) and Platinum/Actara (thiamethoxam). Overall, Assail's spectrum of activity is different from those of imidacloprid and thiamethoxam, but until we know more about resistance development in the Colorado potato beetle, it would be wise not to consider Assail as a rotational insecticide if other neonicotinoids are being used on the crop.

Rick Weinzierl (217-333-6651; weinzier@uiuc.edu)

Brief Notes on European Corn Borer, Southwestern Corn Borer, and Stalk Borer

Ron Hines has reported that his pheromone traps in Massac, Pulaski, and Pope counties (far southern Illinois) captured European corn borer moths May 13-16. His southwestern corn borer trap in Pulaski County caught the first two moths of this species on May 17. And ... news on a creature to look out for now in southern Illinois ... stalk borer degree-days indicate that larvae should begin moving from grass hosts to larger stemmed hosts – corn – in the southern half of the state. For more information on this insect and the use of degree-days to predict its movement into corn, see the fact sheet prepared by Susan Ratcliffe, Mike Gray, and Kevin Steffey, and check the degree-day calculator's summary of stalk borer activity based on accumulated degree-days.

Kelly Cook (217-333-4424; kcook8@uiuc.edu)

Potato leafhopper in Vegetables and Fruit

This is the time of year that potato leafhopper usually migrates into Illinois on weather systems. This insect does not overwinter in Illinois, but like several other important pests such as black cutworm, corn earworm, eastern flower thrips, and corn leaf aphid, it rides high-level winds and extends its range into much of eastern North America each summer. Adults and nymphs feed on a wide variety of plants, including potatoes, green beans, alfalfa, apples, redbuds, and maples. They insert a needle-like stylet into leaves and suck out plant sap. They also inject a salivary secretion into plant tissue, and that secretion is toxic. It results in "hopper burn" (yellowed or browned margins of leaves – the textbook example is a V-shaped yellow discoloration near the tip of alfalfa leaves), curling or cupping of leaves (as in the photo of green beans below), and reduced growth of new shoots (the key problem in young apple trees). Potato leafhoppers are small – adults are about 1/8 inch long – so be sure to scout carefully for their presence. Adults fly when disturbed, but nymphs (wingless) move sideways, not forward or back ... this sidestepping movement is an identifying trait. Check the 2005 Midwest Vegetable Production Guide or the 2005 Midwest Tree Fruit Spray Guide for insecticides labeled for potato leafhopper control in specific crops.


Left: Potato leafhopper adult and nymph (photo from University of Nebraska). Right: Potato leafhopper injury to snap beans (photo by Galen Dively, University of Maryland).

Striped Cucumber Beetles on Cucurbits

Just a reminder ... striped cucumber beetles are moving onto cucurbit seedlings and transplants in substantial numbers in central Illinois. Applications of Admire during planting or as a post-transplant drench are effective, as are a number of foliar insecticides. For crops that are susceptible to bacterial wilt (transmitted by striped cucumber beetles and later by spotted cucumber beetles as well), treat if infestations reach 1 per plant (or even 1 per 10 plants if wilt was prevalent in the area last fall). Wilt-susceptible cucurbits include all cucumbers and muskmelons and some pumpkins. Watermelons and summer squash are not very susceptible to bacterial wilt, so they can tolerate greater infestations – treat if numbers exceed 5 per plant or defoliation is severe. Floating row covers generally are effective in excluding beetles if the edges of the covers are covered with soil and there are no openings for beetle entry. Those who start cucurbits under vented plastic covers supported by wires should check plants for infestations ... the vents allow beetle entry along with air flow. If sprays are needed, covers must be removed.


Striped cucumber beetle (photo from University of Kentucky)

Rick Weinzierl (217-333-6651; weinzier@uiuc.edu)

Managing Phytophthora Blight of Cucurbits

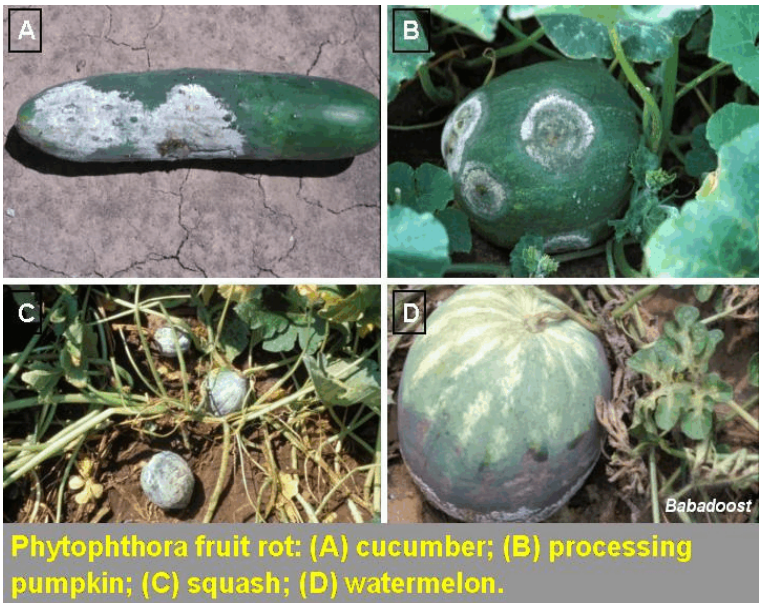
An integrated approach with fungicide seed treatment, field scouting, and fungicide spray was developed to manage Phytophthora blight, caused by *Phytophthora capsici*, in cucurbit fields. Seed treatment with Apron XL LS (0.65 fl oz/100 lb of seed) significantly reduced pre- and post-emergence seedling infection until five weeks after sowing seeds. Field scouting, especially after major rainfall, and disking areas with localized infected plants, significantly reduced spread of the disease within the field. In experimental plots, under heavy disease pressure, seed treatment with Apron XL LS (0.65 fl oz/100 lb of seed) and spry applications of Acrobat 50WP (6.4 oz/A) plus copper sulfate (2 lb of Cuprofix Disperss 36.9DF/A) alternated with Tanos 50WDG (10 oz/A) plus copper hydroxide (2 lb of Kocide-2000/A), at weekly intervals, resulted in only 11.7% vine and 9.8% fruit infection, compared to 36.7 and 49.4% vine and fruit infection, respectively, in untreated plots. In commercial fields, integration of seed treatment with Apron XL LS (0.65 fl oz/100 lb of seed), field scouting and disking localized infected plants, and spray application of Acrobat 50WP (6.4 oz/A) plus copper hydroxide (1.33 pt of Champ 37.5F/A) alternated with Tanos 50WDG (8 oz/A) plus Champ 37.5F (1.33 pt/A), at 7-day intervals, beginning first sign of

Phytophthora blight, reduced yield losses to less than 10%, compared to more than 50% yield losses in untreated fields. For more information on Phytophthora blight and other diseases of cucurbits visit the following websites:

http://www.ag.uiuc.edu/%7Evista/abstracts/a945.html and http://veg-fruit.cropsci.uiuc.edu/Vegetables/Main/vegetables.htm.

Post-emergence damping-off of a pumpkin seedling caused by *Phytophthora capsici*

Wilt of a pumpkin plant caused by *Phytophthora capsici*



Phytophthora fruit rot: (A) cucumber; (B) processing pumpkin; (C) squash; (D) watermelon.

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Fruit Production and Pest Management

Article and Illustrations on Frost Damage to Apples in the Minnesota Fruit and Vegetable IPM News

The May 16 issue of the Minnesota Fruit and Vegetable IPM News includes an informative article on assessing frost damage to apple buds, flowers, and fruit. It's reprinted from an article by Mark Longstroth, District Horticultural Agent at Michigan State University's Van Burn County office. It's a little late to be looking for new information on this topic for the 2005 season, as the May 2-3 cold snap that hit much of the northern half or 2/3 of Illinois is now a few weeks past, but the illustrations and discussion in this article make it a great reference for the future.

Notes on Fruit Insects

Codling moth:

Chris Doll noted that his biofix date at Edwardsville was May 8. That's not a lot different than Urbana at May 9, and in fact May 8 or 9 looks to be the biofix date based on traps in orchards not far from Peoria as well. Accumulated degree-days since biofix reached 200 at Urbana on May 23, and the total through the same date at Peoria was 185. Egg hatch begins at 220 to 240 degree-days (base 50 F) after significant moth flight. So ... from Edwardsville all the way north past Peoria, it's right at time to be applying a cover spray that's effective against codling moth.

Potato leafhopper:

Yes, the same insect as above ... If you're a fruit grower who skips to this section without reading the earlier material, be sure to begin scouting for potato leafhopper in young apple trees that you may not be spraying much because they aren't bearing yet. Also be sure to scout for this insect in grapes ... its feeding results in discoloration and distortion of leaves, as well as reduced growth of shoots.

Raspberry Cane Borer in 'Navaho' Thornless Blackberry?

Damage to fruiting canes of 'Navaho' Thornless Blackberry.

In mid-May I received a sample of fruiting canes of 'Navaho' thornless blackberry. Shoots had wilted, and exit holes provided evidence that an insect had tunneled within the canes. I thought first of rednecked cane borer, but the tunnels were circular, not flattened, and they were too large to have been created by rednecked cane borer or the other flat-headed borer of brambles, bronze cane borer. Tunneling extended from 3 or 4 feet above ground all the way down to the crown, though there was no evidence of damage below ground. The damage appears to have been done by raspberry cane borer. Although the sample I received did not include tissue exhibiting the characteristic parallel rows of punctures to shoots that precedes egg-laying by adults in July and August, the tunneling seems to match the description offered for raspberry cane borer on pages 90 and 91 of the revised 2004 edition of the Midwest Small Fruit Pest Management Handbook: "Eggs hatch into larvae, or grubs, that feed inside the cane. Larvae bore down to the base of the cane by fall and into the crown by the next summer."

If anyone has other opinions on the identity of the insect that caused the damage illustrated above, please let me know.

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This issue's words of wisdom ...

How Many Dogs Does It Take to Change A Light Bulb?

- Golden Retriever: The sun is shining, the day is young, we've got our >whole lives ahead of us, and you're inside worrying about a stupid burned >out bulb?
- Border Collie: Just one. And then I'll replace any wiring that's not up to code.
- Dachshund: You know I can't reach that stupid lamp!
- Rottweiler: Make me.
- Boxer: Who cares? I can still play with my squeaky toys in the dark.
- Lab: Oh, me, me!!!!! Pleeeeeeeeze let me change the light bulb! Can I? Can I? Huh? Huh? Huh? Can I? Pleeeeeeeeze, please, please, please!
- German Shepherd: I'll change it as soon as I've led these people from the dark, check to make sure I haven't missed any, and make just one more >perimeter patrol to see that no one has tried to take advantage of the situation.
- Jack Russell Terrier: I'll just pop it in while I'm bouncing off the walls and furniture.
- Old English Sheep Dog: Light bulb? I'm sorry, but I don't see a light bulb!
- Cocker Spaniel: Why change it? I can still pee on the carpet in the dark.
- Chihuahua: Yo quiero Taco Bulb.
- Pointer: I see it, there it is, there it is, right there.....
- Greyhound: It isn't moving. Who cares?
- Australian Shepherd: First, I'll put all the light bulbs in a little circle...
- Poodle: I'll just blow in the Border Collie's ear and he'll do it. By the time he finishes rewiring the house, my nails will be dry.

- Cat: "Dogs do not change light bulbs. People change light bulbs. So, the >real question is: How long will it be before I can expect some light, some dinner, and a massage?" All of which proves, once again, that while dogs have masters, cats have staff.

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