

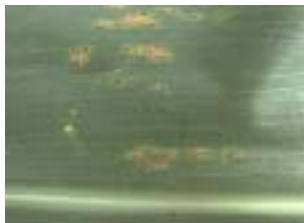


College of Agricultural, Consumer, and Environmental Sciences

Illinois Fruit and Vegetable News

Vol. 11, No. 9, June 9, 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 ... the jokes ... are at the end of newsletter. Check the last page.

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Fruit Production and Pest Management (dogwood borer, tufted apple bud moth, insect and disease management for freeze-damaged orchards)

University of Illinois Extension Specialists in Fruit & Vegetable Production & Pest Management

Crop and Regional Reports

In northern Illinois, day temperatures have been in the upper 60s to low 80s and night temperatures in the upper 40s to low 60s during the May 24 – June 5 period. It was much warmer on June 4 & 5 when the day temperatures were in the upper 80s to 90s and night temperatures in the mid 60s in some areas. It has been a very dry spring with low soil moisture content, as many areas in the region recorded about 2 inches of rainfall which is much less than rainfall recorded during the same period in past years. Freezing temperatures that occurred in early May killed many apple and other fruit tree blossoms. The damage varies by orchard and by varieties within blocks. Apple and peach fruits are marble-sized, and it is very important for growers to evaluate apple and peach fruit set within each block and among varieties before thinning. If thinning is necessary, then it is advisable to use lower recommended rates for thinning agents in blocks where frost damage is higher. First cover spray is going on in orchards. Grapes are in the pre-bloom and bloom stages. Flea beetle larva have been observed on grape leaves. For more information on response to spring frosts and fruit crop loss refer to Michigan State University Extension – Fruit Crop Advisory Team Alert – Vol.17, No. 4, April 30, 2002 (http://www.ipm.msu.edu/CAT02_frt/F04-30-02.htm) and Vol. 17, No. 5, May 7, 2002 (http://www.ipm.msu.edu/CAT02_frt/F05-07-02.htm). Most growers have planted sweet corn and some fields are about 3 inches tall. Transplanting of tomatoes, peppers, cucumbers, muskmelons, and watermelons is going on in many farms. Pumpkin and squash planting is going on as well.

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

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/>.

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 18, 2005. Illinois Herb Association Summerfest

Washington Park Botanical Garden, Springfield, IL. Contact Bill Rich at 217-728-7808 or brich@moultrie.com. For brochure, contact Diane Handley at 309-557-2107 or e-mail handley@ilfb.org.

June 23: Organics from Seed to Table

9:30 a.m. - 2:30 p.m. University of Illinois South Farms and Blue Moon Farm. See <http://www.aces.uiuc.edu/asap/topics/tours.html>; contact Deborah Cavanaugh-Grant at (217) 968-5512 or cvnghgrn@uiuc.edu.

June 25, 2005. Viticulture Workshop

9:00-11:30 a.m. Hill Prairie Vineyard and Winery, Oakford. RSVP to Elizabeth Wahle at wahle@uiuc.edu or 618-692-9434.

July 13, 2005. Organics from the Ground Up

Growing Home Farm, Marseilles, Illinois. See <http://www.aces.uiuc.edu/asap/topics/tours.html>; contact Deborah Cavanaugh-Grant at (217) 968-5512 or cvnghgrn@uiuc.edu.

July 21, 2005. Illinois Vegetable Growers Association annual Twilight Meeting, St. Charles Research Center

St. Charles, IL. Contact Bill Shoemaker at 630-584-7254 or wshoemak@inil.com.

August 4, 2005. Dixon Springs Agricultural Center Field Day

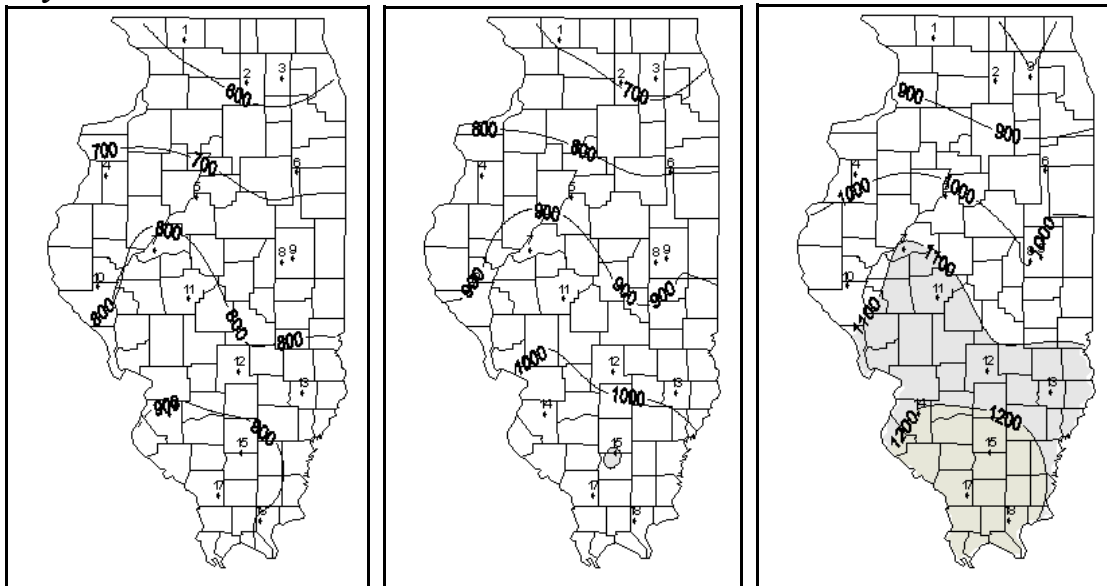
University of Illinois DSAC, Simpson, IL. Contact Bronwyn Aly at 619-695-2444 or baly@uiuc.edu.

September 8, 2005, Illinois Pumpkin Field Day

SIU Belleville Research and Education Laboratory, Belleville, Illinois. 10:00 a.m. -2:30 p.m.

Elizabeth Wahle (618-692-9434; wahle@uiuc.edu) and Rick Weinzierl (217-333-6651; weinzier@uiuc.edu)

Degree-Day Accumulations



Degree-day accumulations, base 50 F, from January 1 through June 5 (left) and projected through June 12 (center) and June 19 (right), 2005.

Degree-day accumulations, base 50 F, January 1 through June 5 (historic average and 2005), and projections through June 19, 2005.

Site No.	Station	County	DD, Base 50 Jan 1 - June 5 11-yr historic average	DD, Base 50 Jan 1 - June 5 2005	Projected DD, Base 50 Jan 1 - June 12 2005	Projected DD, Base 50 Jan 1 - June 19 2005
1	Freeport	Stephenson	528	583	692	832
2	Dekalb	Dekalb	578	580	695	839
3	St. Charles	Kane	501	567	669	800
4	Monmouth	Warren	644	718	838	984
5	Peoria	Tazewell	686	750	873	1024
6	Stelle	Ford	644	677	798	949
7	Kilbourne	Mason	758	836	961	1112
8	Bondville	Champaign	696	709	835	988
9	Champaign	Champaign	708	772	901	1058
10	Perry	Pike	743	766	891	1041
11	Springfield	Sangamon	787	848	982	1145
12	Brownstown	Fayette	868	811	951	1116
13	Olney	Richland	846	846	985	1149
14	Belleville	St. Clair	915	913	1049	1203
15	Rend Lake	Jefferson	985	961	1110	1283
16	Fairfield	Wayne	944	missing	missing	missing
17	Carbondale	Jackson	941	944	1085	1247
18	Dixon Springs	Pope	1015	893	1038	1203

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/>.

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

Notes from Chris Doll

PHENOLOGY AND WEATHER: It is still dry, which has slowed some plant development in the area. May rainfall totaled 1.0 inch and nothing has been seen in June. Warm temperatures over the weekend did bring the phenology stages to within about 3 days of 2004. For me, that means that the first red raspberries are ready, blackcaps have turned red, and the Ovation strawberry has had two pickings. Cherry varieties are also about 3 days behind last year, which means that Montmorency will be ready in 7-10 days. First color has been seen in an early nectarine and apricot also. The first Japanese beetles have been seen on this date in each of the last two years, but none have shown yet this year.

Apples are sizing nicely where thinned adequately (2.0 inch diameter on Transparent) and some of Nature's thinned peaches are approaching that diameter. Strawberry harvest in plasticulture fields has wrapped up. Unless ample water was applied, the weekend heat wave also wrapped up the matted row harvest. Renovation should start as soon as feasible.

ORCHARD OBSERVATIONS: The dry weather has made disease control fairly easy, except for powdery mildew and fire blight. The latter has been spreading in some orchards with each slight wetting. Hand thinning some of the Back-40 trees keeps revealing new infected shoots and fruits that are oozing for continual spread. I learned years ago to quit hand thinning once I handled one of the oozing fruits. Scab has been hard to find on both apples and peaches. Wetting hours toward the sooty blotch / flyspeck accumulation number now totals 28 hours. Codling moths continue to be caught in Illinois and Missouri orchards, which means it's been a long egg laying season. But Assail insecticide and the absence of wash-off rains for other insecticides has kept entries very minimal. Localized outbreaks of San Jose scale and white apple leafhopper have been seen, and enough European red mites to create a watch situation for the growers.

NON-CROPPING TREES: Dr. Weinzierl asked for suggestions on handling non-fruiting blocks of trees that has happened from the late spring freeze area, and I will add the winter freeze area of peach. My usual suggestions are to control weeds so that their competition does not influence growth or induce other problems like vole or rabbit damage. Use either chemical or physical methods to get the job done. Codling moth is the most worrisome insect as a few fruits can attract all the moths. Chewing and sucking insects can be scouted and control treatments made if numbers indicate a need. At this time of the year, disease pressure should have abated, and control measures eased up if economies are needed. Dr. Dave Rosenberger of Cornell wrote an excellent article about disease control needs of trees with a total crop loss in Cornell University's SCAFFOLDS, Volume 11, Number 13 on June 10, 2002. [See below for a link to this article.]

ISHS SUMMER ORCHARD DAY: Others have mentioned the highlights of the Edwards Orchard at Poplar Grove and the excellent program that has been prepared. But I have said many times that this is one of the premier direct farm market orchards in the United States and I hope to see many of the readers there on June 16.

Chris Doll (EDWDOLLX2@aol.com)

Vegetable Production and Pest Management

Asparagus Beetles



Common asparagus beetle eggs
[Picture by Michigan State University]



Asparagus beetle eggs, left, (Michigan State Univ.) and larva, right (N. Carolina State Univ.)



Spotted asparagus beetle (not a pest)
[Picture by Michigan State University]

Asparagus beetle, left (Purdue Univ.), and spotted asparagus beetle, right (Michigan State Univ.)

Although their activity began a few weeks ago, asparagus beetle adults are especially active now in central IL and northwards. Asparagus beetle adults overwinter and lay eggs on spears and ferns. Larvae that hatch from these eggs feed on spears and distort their growth, and later they become more numerous and injure ferns and reduce plant growth and vigor. Another problem is the contaminant effect of eggs glued onto spears. A repeat of an earlier issue's recommendation: Treat spears during the harvest season if asparagus beetle eggs are present on more than 2 percent of the spears. Treat ferns if defoliation exceeds 10 percent or if more than 50 percent of plants are infested with larvae. Several insecticides are effective against these pests; see the 2005 [Midwest Vegetable Production Guide](#) or the 2005 Illinois Agricultural Pest Management Handbook for details. Remember that spotted asparagus beetle, although it feeds lightly on ferns as an adult, develops as a larva only in the berries on ferns, and it is not a pest in this role ... do not treat to control spotted asparagus beetle adults.

Squash Vine Borer and Squash Bug

It's time for the annual reminders about squash vine borer and squash bugs ... and by the way, the recent span of hot, dry weather has triggered the activity of squash bug adults in southern and central Illinois already ...

The squash vine borer, *Melittia cucurbitae* (Harris) (Lepidoptera: Sesiidae), tunnels in the vines of pumpkins and summer and winter squash; it rarely is found in cucumbers or melons and cannot complete its development except in squash or pumpkins.

Identification. The squash vine borer adult is a black and reddish moth called a clearwing moth because large portions of its hind wings lack scales. These moths are $\frac{3}{4}$ - to 1-inch long, with a 1- to 1 $\frac{1}{2}$ -inch wing span. They are active during the daytime and superficially resemble wasps as they fly about. Larvae are yellowish-white with a brown head, 3 pairs of thoracic legs, and 5 pairs of fleshy abdominal prolegs that bear tiny hooks called crochets. Fully-grown larvae are about 1 inch long. Brownish pupae are slightly less than 1 inch long, and they are found in the soil inside a dark, silken cocoon.

Life Cycle. Squash vine borers overwinter as mature larvae or pupae within cocoons 1 $\frac{1}{2}$ to 3 inches below the soil surface. Moths emerge and begin to mate and lay eggs in June and July in much of the Midwest (earlier, beginning in May, in southern Illinois and similar latitudes). Moths lay eggs singly at the base of plants or on stems and petioles, beginning when plants start to bloom or "run". Larvae feed within stems or petioles for 2 to 4 weeks, leaving brown, sawdust-like frass (droppings) at holes where they entered the stem. In southern Illinois these pupate and produce a second flight of moths in late summer; in the north, larvae or pupae of the first (and only) generation remain in the soil through the winter.

Plant Injury. Tunneling within vines destroys water- and food-conducting tissues, reducing plant vigor and yield and sometimes killing vines.

Management. Disking or plowing to destroy vines soon after harvest and bury or destroy overwintering cocoons reduces moth populations within a field in the spring. Staggering plantings over several dates also allows some plantings to escape heaviest periods of egg-laying. Early detection of moths and initial damage is essential for timing insecticide applications. For insecticides to be effective, they must be applied before larvae enter stems or petioles. Scout for moths (pheromone lures and traps are available for monitoring flight periods) and look for entrance holes and frass as soon as plants begin to bloom or vine. Apply insecticides beginning 5 to 7 days after moths are first detected and at weekly intervals for 3 to 5 weeks, or begin when injury is first noted and make a second application a week later. Capture, Sevin, Thiodan, Asana, Pounce, and Ambush are effective against squash vine borer; rotenone provides some control in organic production.



Squash vine borer adult (left) and larva (right)

Squash Bug



Squash bug adult (above), eggs (lower left), and nymphs (lower right).

Late June and July usually bring the beginning of squash bug infestations in Illinois, but this year adults are already moving into fields. The squash bug, *Anasa tristis* (De Geer) (Hemiptera: Coreidae), is a perennial and severe pest of pumpkins and squash; it rarely injures cucumbers and melons in the Midwestern United States.

Identification. The squash bug is a “true bug” in the order Hemiptera. Like all adult Hemiptera, adult squash bugs have two pairs of wings, with the front wings hardened at the base and membranous at the tips. Its mouthparts form a needle-like beak that arises from the tip of the head. Adults are brownish black, with yellowish to red-orange markings; they appear oval shaped when viewed from above, and somewhat flattened when viewed from the side. Females lay yellowish-white eggs in

small clusters or masses on the upper and lower surfaces of leaves; the eggs quickly darken to a reddish brown color. Eggs hatch to produce grayish-white, wingless nymphs with black legs. The nymphs darken in color as they grow older, and wing pads (the beginnings of adult wings) begin to develop.

Life Cycle. The squash bug overwinters as an adult, and survival is greatest in plant debris, mulch, and field borders or woods. Adults become active in the spring, mate, and females begin feeding and laying eggs in June and July. Nymphs grow to the adult stage in 5 to 6 weeks, and new females mate and begin laying eggs immediately. Populations are greatest during hot, dry summers. Females that reach the adult stage after late July or early August do not mate or lay eggs but instead enter an inactive stage and seek overwintering sites. Squash bugs may be present as nymphs or adults in pumpkins and squash from June through October.

Plant Injury. Squash bugs use piercing mouthparts to penetrate stems, leaves, and fruit and suck sap from plants. This direct damage may cause wilting or even kill plants if populations are great enough. Recent research has found that squash bugs transmit squash yellow vine disease; controlling squash bugs limits the spread of this disease within fields.

Management. Early in the season when adults move into fields and feed on young plants, watch for wilting of seedlings and apply an insecticide if wilting is observed. Scout for eggs of the squash bug on upper and lower surfaces of leaves. If densities exceed one egg mass per plant, use insecticides for control as nymphs begin to hatch. Insecticides labeled for use against squash bug are most effective against young nymphs, and for commercial growers who possess a Pesticide Applicator's License, the pyrethroid insecticide Capture is particularly effective against squash bug. Organic growers may choose to use floating row covers to exclude squash bugs from young plants, but when row covers have to come off to allow pollination, none of the insecticides approved for use in Certified Organic production systems are truly effective against squash bugs.

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

Aphids

A quick note: green peach aphids and melon aphids have shown up on melons in southern Illinois; the pink form of potato aphid has been observed on tomatoes in the south, and soybean aphid has started to infest soybeans in the southern half of the state. Insecticides can be effective in controlling aphid buildup on cucurbits and tomatoes (as well as other crops); see recommendations for specific crops in the [Midwest Vegetable Production Guide](#). Insecticide applications will not prevent soybean aphid from transmitting viruses from weed hosts to cucurbits, snap beans and other crops as it passes through and feeds briefly in plantings of these crops en route from buckthorn, its winter host, to soybeans.

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

Fruit Production and Pest Management

Dogwood Borer and Tufted Apple Bud Moth

Dogwood borer flight is well underway in southern Illinois. Adults (clear-winged moths) lay eggs on bark, and larvae tunnel in trunks and branches. They damage apples by tunneling in burr knot on apple trunks, not only feeding on callous tissue but also damaging vascular tissue as well. Lorsban 50W is labeled as a directed spray to trunks (not foliage or fruit) at a rate of 3 lb per 100 gal no later than 28 days before harvest. Now through late June is a good time to make this application so that it corresponds to peak egg hatch and also provides some benefit against other borers that less commonly cause much injury in Illinois orchards.

Tufted apple bud moth was a problem in isolated orchards in southern Illinois a few years ago because an organophosphate-resistant population developed there. It's worth noting that Assail and presumably Calypso, while very effective against codling moth, are not effective against tufted apple bud moth. Where first generation infestations of this insect are noted over the next week to 3 weeks, growers should plan to use Intrepid or SpinTor (Entrust) against the second generation.

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

Insect Management in Orchards with Severe Crop Loss

Where winter injury in peaches or spring freezes in apples or peaches has resulted in severe crop loss, growers are faced with difficult decisions on the value of insect and disease control when little or no fruit will be marketed to recoup the costs of

spray programs. For insect management decisions for the remainder of the year, the determining factors are whether or not ANY fruit remains in a particular block and whether or not the fruit will be harvested and marketed.

- If fruit is to be harvested and marketed, then all the direct pests of that fruit need to be controlled just as though there were a complete crop. Oriental fruit moth, plant bugs, stink bugs, and Japanese beetle control by means of cover sprays timed according to trap counts and other scouting data remain necessary in peaches. Codling moth, apple maggot, and late season curculio adult and leafroller damage must be controlled in the same fashion in apples. The point: If the crop is to be marketed, insect damage to fruit must be prevented in a short crop just as in a full crop.
- If there is no fruit to harvest, then – obviously – it does not need to be protected from fruit-infesting insects. So in blocks with TOTAL crop loss, insecticides are needed only to protect the tree's health and prevent buildup of insect pests that will threaten the crop the next year. Sprays are needed to protect against peachtree borer, lesser peachtree borer, and scale insects in peaches. Similarly, sprays are needed to control dogwood borer, potato leafhopper, and San Jose scale in apples. Sprays to control aphids and white apple leafhoppers are not likely to be needed, but heavy infestations may warrant control. If there is NO fruit in a block, there is no need for summer sprays against oriental fruit moth, codling moth, apple maggot, etc. These pests will build up to be problems next year if there is no host fruit for them to infest. Control of leafrollers, plant bugs, and stink bugs is also not necessary.
- If there is not enough fruit to harvest but still enough to support some fruit-infesting insects, then insecticides should be used as listed for NO crop and to limit fruit-infesting pest build-ups that will be problems in 2006. Specifically, sprays should be applied at peak times for apple maggot, codling moth, and oriental fruit moth control in their respective host crops. There is probably little benefit to treating for plant bug or stink bug control in blocks that will not be harvested, because the life histories and infestation dynamics of these pests is more dependent on hosts outside the orchard anyway. If fruit will not be harvested, controlling Japanese beetles is unnecessary unless defoliation is severe.

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

Fungicide Programs for Apple Orchards with Total Crop Loss

Due to the April-May freeze damage, some blocks of apples in northern Illinois have no crop. The following are disease management suggestions for such blocks.

- If there is a partial crop loss in the orchard and remaining crop will be marketed, such orchard should receive regular spray applications as recommended in the *2005 Commercial Tree Fruit Spray Guide* (<http://www.extension.iastate.edu/Publications/PM1282.pdf>) or any effective spray schedule that the grower has been using.
- For orchards that have no crop, the growers should focus on minimizing development of scab and powdery mildew. The best way would be to scout the orchard and apply fungicides as needed. Where primary scab was effectively controlled, no additional fungicide sprays may be necessary, except for cultivars that are highly susceptible to mildew.

Where scab lesions are present in trees with no crop and there is not need for mildew control, a single application of captan at the maximum label rate in early to mid-June will limit secondary spread of scab to new leaves. Secondary spread of scab in summer is often limited by hot weather. Temperatures above 85°F significantly reduce viability of conidia. If, however, the weather stays cool and wet, further applications of captan may be needed during June and July to slow secondary spread of scab, especially in vigorous trees where shoot growth may continue unabated. Where considerable leaf scab is evident in late summer, a fungicide spray in September can help to limit the spread of scab to the undersides of leaves during autumn. Preventing spread of scab during autumn can significantly reduce the amount of carry-over inoculum for next year. There is no need for 100% control of scab in an orchard with no crop. So long as the foliage remains reasonably healthy, it will be more cost-effective to control scab next year. Also, spray-application of urea to fallen leaves would accelerate leaf decay and minimize carry-over inoculum for next year.

Apple trees can tolerate mildew, so 100% mildew control is not essential. Nevertheless, for mildew-susceptible cultivars such as Ginger Gold, Cortland, Paula red, and Rome, “mildew-cide” sprays may be needed during summer to limit the amount of carry-over inoculum for next year. Sulfur is the cheapest “mildew-cide”, and it should provide adequate protection for trees with no crop. In orchards with no crop, better mildew control might be achieved by applying sulfur at 10-15 lb/A. Even at these higher rates, sulfur will be easily removed by rain. Mildew-susceptible apple cultivars should be sprayed with sulfur at about 14-day intervals or after rains of one inch or more.

For more information on fungicide programs in apple, pear, and cherry orchards with no crops, refer to an article published by Dave Rosenberger, which is posted at <http://www.nysaes.cornell.edu/ent/scaffolds/2002/6.10.html#d1>.

Mohammad Babadoost (217-333-1523; babadoos@uiuc.edu)

This issue's words of wisdom ...

Why men are happier ...

Men Are Just Happier People ... But then what do you expect from such simple creatures?

- Your last name stays put. The garage is all yours. Wedding plans take care of themselves. Chocolate is just another snack.
- You can be President. You can never be pregnant. You can wear a white T-shirt to a water park. You can wear NO shirt to a water park. Car mechanics tell you the truth.
- The world is your urinal. You never have to drive to another gas station restroom because this one is just too icky. You don't have to stop and think of which way to turn a nut on a bolt.
- Same work, more pay. Wrinkles add character. Wedding dress \$5000. Tux rental \$100. People never stare at your chest when you're talking to them.
- The occasional well-rendered belch is practically expected. New shoes don't cut, blister, or mangle your feet.
- One mood all the time. Phone conversations are over in 30 seconds flat. You know stuff about tanks.
- A five-day vacation requires only one suitcase. You can open all your own jars. You get extra credit for the slightest act of thoughtfulness. If someone forgets to invite you, he or she can still be your friend.
- Your underwear is \$8.95 for a three-pack. Three pairs of shoes are more than enough. You almost never have strap problems in public. You are unable to see wrinkles in your clothes.
- Everything on your face stays its original color. The same hairstyle lasts for years, maybe decades. You only have to shave your face and neck.
- You can play with toys all your life. Your belly usually hides your big hips. One wallet and one pair of shoes one color for all seasons. You can wear shorts no matter how your legs look.
- You can "do" your nails with a pocket knife. You have freedom of choice concerning growing a mustache.

No wonder men are happier.

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