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TOBACCO

TOBACCO PROBLEMS FOLLOWING THIS PROLONGED WET PERIOD

By William Nesmith

Much of Kentucky has experienced a very significant change in weather during the past several days - from drought to cloudy, rainy weather. Most crops will respond very favorably to the moisture, but this change will bring on other problems. In addition, some crops sustained wind and hail damage.

DROWNING: Tobacco is very susceptible to low oxygen levels in the root zone. Where soils remain saturated for several hours at high temperature, the oxygen level is depleted quickly. As a result, respiration levels of deep roots are slowed markedly which will impair the root system's ability to work. Water uptake and movement is an energy requiring process, so expect to see water uptake and movement problems. Because drought conditions immediately preceded this wet event, most of the functional roots were deep, and now those roots may be in saturated soils. How quickly, or if, damage occurs to the above ground portions of the plant will depend in a large part on how quickly the plant can develop an effective shallow root system.

Transpiration rates from the leaf have been low because of the high humidity, but when that changes expect some wilting. Where wilting occurs long enough with bright sunlight, the leaf will scald. Unfortunately, growers will often blame this on what was done immediately before the wet period - cultivation, fertilization, pesticide application. With damage to the root system and leaching, expect some nutritional disorders.

WATER SOAKING: In some communities considerable water was driven into the leaf through the open stomata. In most cases, this results in a white area developing on the leaf. Where the angular leaf spot bacterium was present, this could result in serious outbreaks of angular leaf spot symptoms ranging from flecking to burn within 48-96 hours. Because of the previous drought conditions, bacterial populations on the leaf were probably very low, but they will begin to build rapidly with wet foliage. Streptomycin sprays (0.5 to 1.0 lbs/100 gallons) could be very beneficial if applied preventive, but most growers are not able to get into the field to spray. Rescue treatments have little value.

Where the bacterium was absent, just the driving of water into the leaf will leave the leaf with a white sheen. This causes no real damage to the leaf, but can generate much concern for a few days.

BLACK SHANK: The black shank fungus is having a " field day" during this wet weather. Both the production of abundant secondary inoculum plus spread of that inoculum have been occurring. In some places the soil has been saturated for 96 hours as of Monday, June 19, so the fungus has completed two cycles within that period. Very damaging levels of black shank could strike quickly. Roots, stems and leaves are all being attacked directly. Cultivation and layby applications of Ultra Flourish at 2 qts/A or Ridomil Gold at 1 pt/A should be helpful.

BLUE MOLD: Blue mold has not been confirmed in Kentucky as of press time, but if it is present activity should increase rapidly, with symptoms from new infections present within 5-10 days. Significant blue mold is present in eastern Tennessee, so growers need to remain informed through the Kentucky Blue Mold Warning System.

TARGET SPOT: Target spot epidemics in Kentucky are often associated with periods of continuous soil saturation. Therefore, we may see some outbreaks of target spot, especially in fields of early set tobacco, under low fertility, and with very poor air circulation. There are no chemical controls available for target spot.

TARGET TOBACCO WORMS
by Lee Townsend

Several worms are active now, including tobacco budworms, yellowstriped armyworms, and stalk borers. Budworms are the most destructive of the lot and deserve the greatest attention, especially in the earliest set fields. In these, female moths have been cruising along at night laying single eggs on scattered plants across the field. As a result, budworm infestations will be randomly scattered over the field.

Detection of budworm infestations requires careful field monitoring. This is done by examining the bud area of at least 5 groups of 10 plants per acre at randomly selected locations in representative areas of the field. Examine the bud area carefully for small, round holes and dark, pepper ground-like droppings. Carefully push apart bud leaves to find the small budworm larvae. It is a good time to look for developing aphid colonies on bud leaves, too. Repeat this process at weekly intervals. A budworm treatment should be applied when 5 or more worms can be found per 50 plants. See ENT 15 for insecticide recommendations.

Budworms feed for about 3 weeks. Large holes appear from earlier feeding as the leaf expands. However, leaf feeding damage is not as serious as injury to the bud. These insects can destroy the growing point, essentially topping the plant. This can result in extensive sucker growth. Budworms also will tunnel into leaf stems and stalks. Full grown larvae (about 1-1/2 inches long) leave the plant and pupate in the soil. A second generation can attack late-set tobacco.

Early detection is the key to managing this key tobacco pest. Chances for success with insecticidal control are greatest when small larvae are feeding in relatively "open" buds. Hollow cone nozzles, positioned over the row, that apply 25 to 30 gallons of water per acre, should give the necessary coverage. Mid-range label rates should be satisfactory for small larvae (less than 3/4 inch). Use high rates when budworms are greater than 3/4 inch long.

Plant buds close tightly when temperatures are high. This provides an extra degree of protection to budworms because they are hidden by the leaves. If budworms are active during very hot periods, treat early in the morning or late evening when the buds have opened to some extent. Budworms that bore into stems and stalks also are protected from the spray application. They will not be killed until they come out to feed on treated leaf tissue.

Yellowstriped armyworms can be found on tobacco early in the season. These caterpillars have a distinct yellow stripe running along each side of the body and a pair of dark triangles on the top of each segment. Full grown larvae are about 1-1/2 inches long. They tend to chew nickel to quarter-sized holes in leaves and usually are found on scattered plants. This insect is not likely to be present in sufficient numbers to be a threat.

Stalk borers have already appeared in tobacco plants this season. They tunnel into stalks of plants along field margins, waterways, or grassy drive rows. These larvae are dark purple at the head end, fading to a dirty white at the tail end. There are two pale stripes along the back. These larvae are true borers. They move from grasses, where the small larvae develop, to the stalks of larger plants as they grow. Once inside a leaf stem or plant stalk, they lengthen their gallery, cutting off water movement in the plant. Infested plants will have wilted leaves or the entire plant may collapse, depending on the site of attack. Infestations are limited to scattered plants, usually a very small number. The larvae are protected inside the plants so insecticides will not reach them. They are vulnerable only as they leave one plant to move to another. This doesn't happen much once they enter a plant as large as tobacco.

RAINFALL AND INSECTICIDE APPLICATIONS

By Lee Townsend

What is in store for those who sprayed their tobacco for aphids, budworms, or hornworms just before the rain? With luck, the spray deposit had time to dry before the rain fell. Treatments including Orthene, Tracer, and Thiodan were applied in test plots just before the rains hit this weekend (about 1.5 inches). A check of control on Monday indicated that the treatments had time to work, at least on small budworms.

In many cases, it will be some time before spray equipment can get back into fields. This will give some more time for products to work. Check treated fields carefully before retreatment. Your results may be better than you anticipated.

CORN

EUROPEAN CORN BORER SECOND BROOD by Ric Bessin

The degree day model with the UK Ag Weather Center indicates that the second flight of European corn borer will begin sometime this week in much of the state. Keep in mind that this is just the beginning of the second flight and numbers will be increasing over the next few weeks. The model indicates that the earliest of the corn borer eggs will be hatching the end of next week. Several commercial producers are using pheromone traps in their fields and can use numbers of captured moths to determine the need to spray for corn borers, other producers will need to protect their pepper plants during this period of corn borer activity.

SOYBEAN

GRASSHOPPERS IN SOYBEANS by Doug Johnson

Fortunately some areas have received a much needed rain over the last several days. However, Kentucky is still dry and looks to remain so for the immediate future. This always raises questions about grasshoppers, especially in soybean. We have already seen some problems this year. As always they will be sporadic and not easily predictable.

Dry conditions are associated with grasshopper problems for three reasons. 1. Grasshoppers are normally kept under control by a naturally occurring disease. This disease requires high humidity and/or rain fall to work effectively. In the absence of adequate moisture, more hoppers escape the disease and live longer. 2. Dry conditions cause the normal hosts of grasshoppers, e.g. waterways, roadsides, pastures etc to become less desirable food sources and thus the hoppers begin to move to alternative sites (usually our crops). Field crops are generally planted much less densely than the surrounding grass and therefore will remain greener a bit longer thus attracting the moving hoppers. 3. Soybeans will tolerate dry conditions for a good long while. However, when under drought stress they will not put on additional foliage and their progress through the growth stages is slowed. This allows the same number of grasshoppers to do more damage than they normally would. For more specific information on the common grasshoppers in KY please consult Entfact-116.

Grasshoppers are not hard to notice but they may be hard to count and thus it is sometimes hard to know if there are enough present to be of concern. Generally the best method of evaluation is not to the count the hoppers, but to estimate the defoliation on the plants. You can find a decision making table (Table-2) based on defoliation in, ENT- 13, *Insecticide Recommendations for Soybeans-2000* or in the *KY IPM Scout Manual for Soybeans*.

To use these tables you will need to 1. Estimate the amount of defoliation, 2, determine the general growth stage of the plant, and estimate the cost of treatment and value of the beans (in bushels.) If you enter the tables based on growth stage, protection cost and value of the beans you can read off a level of defoliation that would be needed in order to justify a spray.

Grasshoppers are relatively easy to kill. However, they can also move great distances. So, even if you do get control of the wee beasts in a given field, it is possible for other hoppers to show up at a later date. This means that you must keep your eyes open even after one population has been controlled. Remember when you apply an insecticide you not only control the pest, you kill the natural enemies of that pest. So, if the pests return you are even more likely to have a damaging population. Only treat if absolutely necessary.

You may obtain copies of all our publications at your Count Extension office or at the following web addresses:
Entfact-116:
www.uky.edu/Agriculture/Entomology/entfacts/fldcrops/ef116.htm
ENT-13:
www.uky.edu/Agriculture/PAT/recs/crop/croprec.htm
Soybean Scout Manual:
www.uky.edu/Agriculture/IPM/manuals.htm

SLUGS—AN UNDER-RECOGNIZED

PROBLEM
By Lee Townsend

Several cases of early stand loss in no-till soybeans were due to slugs. Unfortunately, the problem was somewhat slow to develop and attributed to other causes. This was especially true when some insects unrelated to the damage were very abundant in fields. They got the credit for the damage while the real culprits were hidden under corn stalks.

Burrower bugs and a small, dark ground beetle were very abundant in some of these fields but jumping to conclusions can lead send one off on a tangent. Just before entering one such field, and alert farmer's wife commented on the "glitter" scattered all over the ground. Close examination of a heavily damaged three acre spot in the field showed in fact, a glittery sheen on the surface if you looked at just the right angle to the ground. Careful searching under decaying corn stalks revealed many small slugs, and slime trails and globs could be seen on recently damaged plants.

Slugs have been a sporadic problem over the years, in both no-till corn and beans. There are no good answers for this problem but the questions are being investigated by researchers such as Dr. Ron Hammond of Ohio State University (OARDC - Wooster).

More information is available at www.ag.ohio-state.edu/~ohioline/icm-fact/fc-20.html

FORAGE CROPS

ERGOT RISK IN TALL FESCUE GOING TO SEED
by Paul Vincelli

(Based on a previous article coauthored with Dr. John Johns, UK Extension Beef Cattle Specialist.)

Ergot contamination is present in some tall fescue fields that experienced extended wetting periods and moderate temperatures during flowering. Ergot is caused by the fungus *Claviceps purpurea*, a fungus that is related to the fungal endophyte of tall fescue. Both are capable of producing potent toxic alkaloids that affect animal health (and human health, if eaten).

SYMPTOMS: The ergot fungus infects only the flower parts of certain grasses, and replaces the seed with "ergots". Ergots are sclerotia (survival bodies) of the fungus that are easily recognized with the naked eye. They look like dark brown or dark purple to black, curved cigars measuring 1/8 inch to 3/8 inch. They are longer than grass seed, so they stick out beyond the glumes. If you cut them open, you'll see that they have a gray to whitish interior.

MANAGEMENT
Preventing livestock from consuming a significant dose of ergot sclerotia is the only reasonable course of action.

• Pasture
If seedheads form, inspect them for ergots. If found, mow before turning livestock out into the pasture. Mow the seedheads along the fencerow, as well.

• Hay
If the seedheads are dry before harvesting, the ergot sclerotia will often fall to the ground during cutting/tedding/baling. However, if the seedheads were still somewhat green when cut, the sclerotia can remain attached to the seedhead, and will end up in the bale. In harvested hay, ergot sclerotia constitute a very small fraction of the total forage in the bale. Because of this, the risk from feeding these bales is low. However, repeated feeding of infested hay into a feedbunk can lead to accumulation of the ergot sclerotia at the bottom of the bunk. Livestock may then consume a high dose of sclerotia when they feed on this residue.

• Screenings From Seed Production
Where tall fescue is being grown for seed, avoid feeding screenings that may be contaminated with ergot sclerotia. Seed-cleaning operations concentrate the sclerotia and can pose a great hazard if fed to livestock.

VEGETABLES

CUCUMBER BEETLES ON YELLOW SQUASH
by Ric Bessin

Cucumber beetle numbers have been high in some fields this spring. In the Green River area, feeding by beetles on yellow squash was associated with premature death of the small developing fruits. Generally, there are two generations of stripped cucumber beetle in Kentucky and what producers are seeing is the end of the overwintering adult activity.

Controlling for cucumber beetles at this time present two problems for producers. The first is that they are picking fruit every day, so they need to use an effective insecticide, but one with a short reentry interval and preharvest interval. The second problem is that plants are in bloom and insecticides that are

effective against cucumber beetles are also toxic to honey bees and other pollinators.

Reentry and preharvest intervals for insecticides sprayed on squash are listed in ID-36. The shortest preharvest interval for cucumber beetle insecticides on squash is with permethrin insecticides. These can be applied up to harvest.

But how do producers avoid losses to pollinators when spraying for beetles during bloom? With these cucurbits, the flowers open for only one day. The next day new flowers will open. So to avoid injuring pollinators, it is best to spray late in the afternoon when bee activity ceases. Flowers that open the following day will be free of insecticide on the inner surface of the petals.

COLORADO POTATO BEETLE
by Ric Bessin

The adults from the first generation of Colorado potato beetle have begun to emerge and are causing considerable damage in some fields, particularly where control of the larvae was poor. Several producers are finding that what they have been using to control this pest is no longer effective. In ID-36, there are two new insecticides listed for control of Colorado potato beetle on potato, SpinTor and AgriMek. But before you switch to these products, let me provide a warning. This pest will continue to develop resistance to any insecticide if that insecticide is used continuously. To avoid the development of resistance, a different class of insecticides should be used with each successive generation of this pest. On page 83 in ID-36, the available insecticides are listed and their chemical classes identified. Failure to rotate to new classes of insecticide will promote the development of insecticide resistance.

LAWN & TURF

JAPANESE BEETLES AND MASKED CHAFERS ARE FLYING
By Mike Potter

The adult flight period for Japanese beetles and masked chafers has begun. As is usually the case, it's difficult to predict how serious a problem the beetles will be this year.

Japanese Beetle Adults - Detailed information on this pest can be found in *ENT-5, Japanese Beetles in the Urban Landscape.* Options for protecting landscape plants from foliage feeding adults are as follows:

Plant Selection- The best way to avoid perennial battles with adult Japanese beetles is to select plant material that is less preferred. Publication *ENT-5* lists species and cultivars of trees and shrubs that are less likely to be attacked by beetles.

Hand Picking and Exclusion- Removing beetles by hand may suffice for smaller plants and when beetle numbers are relatively low. The presence of beetles on a plant attracts more beetles. Thus, by not allowing Japanese beetles to accumulate, plants will be less attractive to other beetles. One of the easiest ways to remove beetles from small plants is to shake them off early in the morning when the insects are sluggish. The beetles may be killed by shaking them into a bucket of soapy water or an overturned umbrella. Highly valued plants such as roses can be protected by covering them with cheesecloth or other fine netting during peak beetle activity.

Insecticides- Various insecticides including Sevin, Tempo (= Bayer Advanced Lawn& Garden Multi-Insect Killer), Scimitar, Talstar, malathion, and Orthene are labeled for control of adult Japanese beetles. Sevin is very effective and is the product of choice for most homeowners. Foliage and flowers should be thoroughly treated. The application may need to be repeated at 7-10 day intervals to prevent reinfestation during the adult flight period, or after heavy rains. Follow label directions and avoid spraying under windy conditions. Insecticidal soaps will control beetles that are hit by the spray, but they provide no residual protection. Botanical insecticides such as neem or pyrethrum are not very effective.

White Grubs - There is no reliable way to predict whether any given year will be a bad one for white grubs – the immature, turf-feeding stages of Japanese beetles, masked chafers, and certain other beetles. Moreover, since grub infestations tend to be localized and sporadic, only a small percentage (generally < 5%) of Kentucky lawns require treatment, even in bad years for grubs.

Indicators of Infestation- White grubs and their resultant damage are not usually evident until August or September. Although sampling the turf is the only way to confirm that a problem truly exists, certain factors may indicate an increased risk of infestation later in the season. If your turf has a history of serious grub problems, there is a greater chance that adult beetles will return and re-infest the same areas. Sites with large numbers of adult beetles in June and July are more likely to have grubs in late summer. Early warning signs include swarms of brown, ½-inch long masked chafer beetles skimming over the turf at dusk, or green June beetles buzz-bombing the turf by day in search of mates and egg-laying sites. Masked chafer and May beetle adults are also attracted to porch and street lights at night. Heavy infestations of adult Japanese beetles feeding in the area might also foretell

subsequent problems with grubs of that species.

Rainfall and soil moisture are critical factors affecting the extent of grub damage during a season. Frequent irrigation in June and July may attract egg-laying female beetles to the turf, especially if surrounding areas are dry. High soil moisture also increases egg survival. If lawns are irrigated during June and July, be especially alert for signs of grubs later in the summer. Conversely, adequate soil moisture in August and September (when grubs are actively feeding) can help to hide root injury. Irrigated turf can sometimes tolerate 20 or more grubs per square foot before showing signs of injury.

Treatment Strategies - Two different strategies are available for controlling white grubs with insecticides: curative and preventive. Each approach has its own merits and limitations. With **preventive control**, the insecticide is applied as insurance, *before* a potential grub problem develops. Consequently, they are most suited for high-risk sites with a history of grub problems, or where heavy beetle activity is noted.

Preventive control requires the use of insecticides with long residual activity in soil. Both Merit® (sold to homeowners as Bayer Advanced™ Season-Long Grub Control and GrubX®) and Mach 2® have sufficient soil persistence to be applied any time from mid-May to mid-July and still control young grubs hatching from eggs in late July or early August. The optimum treatment period for these products is mid-June to mid-July.

Preventive treatments afford greater flexibility in application timing, and are easier to schedule and implement than are curative treatments. They often afford greater peace of mind to golf superintendents and lawn service companies because potential damage is avoided or minimized. The main drawback of preventive grub control is that the decision to treat must be made before knowing the extent of infestation. Grub outbreaks tend to be localized and sporadic, and only a small percentage of lawns require treatment in a given year. Thus, preventive control often results in areas being treated unnecessarily. Good record keeping and observation will help in pinpointing grub-prone areas, which are the most logical candidates for preventive applications.

With **curative control**, treatment is applied in late summer – typically August or September – after the eggs have hatched and grubs are present. This is an effective strategy when damaging grub populations are known to be present. Ideally, the decision to treat is based on site inspection and sampling, or past history of infestation. Since white grub infestations tend to be localized, the entire lawn often will not need to be treated. Grub "hot spots," which can be confirmed by sampling, are most likely to be full sun, south or west-facing slopes, lawns seeded with Kentucky bluegrass, lawns that were heavily irrigated during June and July, and turf areas that were damaged by grubs in previous years.

Proper timing of curative grub treatments can be tricky. Insecticides applied too early may degrade before the eggs have hatched, whereas if the product is applied late, the grubs will be harder to kill and severe damage to turf may have already occurred. Presently, granular Dylox is the fastest-acting, most effective insecticide for curative grub control. Diazinon is also an option for homeowners. Although widely sold, products containing chlorpyrifos (e.g., Dursban) are not very effective against grubs. ***There is little benefit in applying any of these short-lived, curative-type products for white grubs in June or July.***

For a complete list of insecticides available for curative and preventive grub control, see *Entfact-441, Insecticides for control of white grubs in Kentucky turfgrass.*

SHADE TREES & ORNAMENTALS

STEM BLIGHTS CAN KILL VINCA GROUND COVERS
by John Hartman

Landscape beds containing vinca, a leafy ground cover, are showing symptoms and signs of stem blights and shoot dieback. Recent warm humid weather has promoted the two main diseases that cause stem blights of vinca.

Stem blight, caused by the fungus *Phoma exigua* var. *exigua* is a serious disease of *Vinca minor* (periwinkle) in Kentucky. Stem blight causes wilting and dieback of shoots. Black lesions girdle the base of affected shoots and tiny black pycnidia, fruiting bodies of the fungus, are found in the lesions. The fungus overwinters on old infected runners, often hidden from view by the new growth. Shoot dieback symptoms may progress to death of entire clumps or patches of vinca, resulting in an uneven ground cover. Stem blight can be mistaken for root rot caused by *Rhizoctonia*, which can also develop black stem lesions. However, stem lesions from root rot infections do not contain the tiny black pycnidia.

Infected plants should be removed from the bed. Thinning of vinca beds and reduction of overhead shade will help reduce stem blight. Chipco 26019, Cleary's 3336, Domain, or Zyban can be used if

fungicides are needed for control.

LANDSCAPE PLANT DISEASES OBSERVED AT PLANT DIAGNOSTIC WORKSHOP
by Jen Flowers*, Julie Beale and John Hartman

The tri-state plant diagnostic workshop held in Boone County on June 9 was well attended and many different diseases of landscape plants were observed. The following list was prepared to inform County Extension Agents and landscape professionals of the current landscape plant disease situation.

Austrian pine - Sphaeropsis tip blight and pine wilt disease caused by the pine wood nematode.
Flowering crabapple - powdery mildew, scab, and cedar-apple rust.
Holly - black root rot.
Hosta - foliar nematode, bacterial soft rot, southern blight, sun scorch, and black vine weevil.
Maple - anthracnose and root/soil problems causing leaf scorch and excess live seed formation.
Oak - leaf blister and many kinds of insect-caused galls.
Redbud - Verticillium wilt.
Various hosts - crown gall, herbicide injury and eriophyid mite galls.

* *Ms. Flowers is a U.K. graduate student in plant pathology*.

PESTICIDE NEWS & VIEWS

CLINTON-GORE ADMINISTRATION ACTS TO ELIMINATE MAJOR USES OF THE PESTICIDE DURSBAN TO PROTECT CHILDREN AND PUBLIC HEALTH

To protect the health and environment of all Americans, especially children, the Clinton-Gore Administration today announced that the U.S. Environmental Protection Agency and the manufacturer of Dursban have agreed to eliminate the widely used pesticide for nearly all household purposes. Dursban, also known as chlorpyrifos, is the most widely used household pesticide product in the United States. Today's action will also significantly reduce residues of chlorpyrifos on several foods regularly eaten by children.

Chlorpyrifos is an ingredient used for a broad range of lawn and home insecticide products, for agricultural purposes and for termite treatment.

The agreement announced today will:

- Stop production of and phase-out all home, lawn, and garden uses;
- Stop production of and phase-out the vast majority of termite-control uses;
- Significantly lower allowable pesticide residues on several foods regularly eaten by children.

EPA is taking this action under the Food Quality Protection Act (FQPA), which was passed unanimously by Congress under the leadership of the Clinton Administration and signed by the President in 1996. The FQPA requires a systematic review of all pesticides to ensure they meet the tough new safety standards that, for the first time, must be protective of children, who are among the most vulnerable to adverse health effects from pesticide residues.

Specifically, today's agreement will halt manufacture of chlorpyrifos by December 2000 for nearly all residential uses. It will require that virtually all of those residential uses be deleted from existing product labels prior to that time, including uses for home and garden sprays, uses to control termites in completed houses and uses on lawns.

This agreement also mandates that all uses will be phased out this year in areas where children could be exposed, including schools, daycare centers, parks, recreation areas, hospitals, nursing homes, stores, and malls.

By the end of 2001, uses to control termites in buildings other than homes or areas where children could be exposed will be phased-out as well. By the end of 2004, the termiticide use on new construction will also be phased-out unless new information becomes available which show that this use could safely continue.

Today's action also calls for canceling or significantly lowering allowable residues for several foods regularly eaten by children, such as tomatoes, apples and grapes. These actions will be taken by the beginning of the next growing season.

Chlorpyrifos belongs to a family of pesticides called organophosphates which can affect the nervous system. The effects from chlorpyrifos exposure vary depending on the dose, but symptoms of over-exposure can include nausea, headaches, vomiting, diarrhea and general weakness. Because of their smaller body weights, children are more susceptible to these effects. Children can be exposed to chlorpyrifos through food residues, by playing in areas where chlorpyrifos has been used as a home-and-garden insecticide, or from inhalation of vapors when chlorpyrifos is used to control termites.

Chlorpyrifos, also known as Dursban, Lorsban and other trade names, is one of the most widely used organophosphate insecticides in the United States,

with more than 20 million pounds applied annually. Approximately 50 percent is used around homes, gardens, and lawns to control a variety of insects, including termites. The remaining 50 percent is used on 40 different agricultural crops. DowAgroSciences of Indianapolis is the primary registrant. There are approximately 825 registered products.

EPA advises consumers that short-term use of these products according to label instructions does not pose an imminent risk. If consumers choose to discontinue use immediately, they should contact their state or local hazardous material disposal program for information on proper disposal. Additional information about chlorpyrifos and today's action can be found on the EPA web site at: www.epa.gov/pesticides.

NOTE: Trade names are used to simplify the information presented in this newsletter. No endorsement by the Cooperative Extension Service is intended, nor is criticism implied of similar products that are not named.

DIAGNOSTIC LAB-HIGHLIGHTS

by Julie Beale and Paul Bachi

Samples have been plentiful this past week in the Diagnostic lab. On corn, we have seen nutritional problems: fertilizer burn, zinc deficiency and manganese toxicity; on alfalfa, we have seen Fusarium crown rot and Lepto leaf spot; on tobacco, diagnoses have included black root rot, black shank, Pythium root rot, target spot, Fusarium basal stem rot, tomato spotted wilt virus and manganese toxicity/acid soil problems.

On fruits and vegetables, we have seen anthracnose and black rot on grape; Mycosphaerella leaf spot on strawberry; fireblight on apple; brown rot and Oriental fruit moth damage on nectarine; Alternaria blight on cultivated ginseng; Septoria leaf spot, early blight, tomato spotted wilt virus, bacterial speck, bacterial soft rot, and Fusarium wilt on tomato; Rhizoctonia and Fusarium stem rots on bean; and Rhizocotonia stem rot on cucumber.

On ornamentals, we have seen cedar-quince rust on hawthorn; anthracnose (both Discula and Kabatiella) on maple; rose mosaic, powdery mildew and black spot on rose; Verticillium wilt on redbud and barberry; and Rhizoctonia stem rot on impatiens, Oriental lily, vinca, viola and zinnia.

INSECT TRAP COUNTS

UKREC, Princeton, KY -June 9-16, 2000

Fall armyworm 11
True armyworm 5
European corn borer 0
Southwestern corn borer 30
Corn earworm 5