PVP LAW Q & A

By Jeff Edwards

Q What is the Plant Variety Protection Act (PVPA)?
A Legislation enacted in 1970 and amended in 1994 to promote the development of new varieties by allowing the variety owner to determine who may sell seed of the variety. Farmers may save seed for their own planting needs but are prohibited from selling any "farmer saved seed" without the permission of the variety owner. The Act provides protection of the variety for 20 years. All seed sales must comply with state seed laws. Applies to all varieties protected prior to April 4, 1995.

Q What does 'Title V' mean?
A An option for protected varieties that allows for the sale of the seed by variety name only as a class of certified seed. Non-certified sales are prohibited. Seed may be called "Certified" only after meeting all requirements and standards of an Official Seed Certifying Agency. In other words, if this option is selected by the variety owner, it means the variety must be sold as a class of certified seed. Title V of the Federal Seed Act makes sales of non-certified seed of these varieties illegal.

Q What are utility patents?
A A means of protection for certain varieties, especially those developed through genetic engineering or biotechnology. Farmers may not save, clean/condition, or sell any seed protected under a utility patent. An example of this would be the Clearfield wheat varieties or Roundup Ready Soybean.

Q What are the benefits of Plant Variety Protection for Farmers?
A The Plant Variety Protection Act was designed to promote the development of new plant varieties. Allowing plant breeders to determine who can sell seed of the varieties developed gives them the ability to insure that the farmers are getting a particular variety. It also allows the breeder to recoup some of the development costs usually through royalties and re-invests in future variety development programs.

Q How important are new varieties to Oklahoma's agricultural economy?
A Researchers estimate that more than 50% of increased performance in agricultural crops is due to improved genetics. Since 1950, the number of varieties available of Oklahoma's major crops has more than tripled!! Besides increased yield, there have been improvements in herbicide, disease and pest resistance, and varieties that are adapted to various soil types and production practices.

Q How can I tell if the seed I buy is protected under the 1970 or 1994 PVP?
A The label on the bag of seed will clearly identify if the seed is protected and distinguish which Act it is protected under.

Q Can a farmer save seed of a protected variety?
A A farmer can save seed protected under both the 1970 and 1994 PVPA for planting on his own holdings (land owned, leased or rented).

Q Can a farmer sell seed of a protected variety?
A Under the 1970 PVPA - Yes, to a neighbor but only the amount needed to plant his own holdings. Under the 1994 PVPA - No, unless permission is given by the variety owner.

Q Can I condition/clean seed for a farmer?
A Yes, but any actions taken as a step in marketing farmer-saved seed are infringements of the rights of the owner. This can include cleaning excess seed or delivering seed to a third party. Under the 1994 PVPA, cleaning or storing farmer saved seed for sale are infringements. Anyone who cleans or conditions farmer saved seed should keep written documentation from the farmer stating that the seed being cleaned is not in violation of PVP laws or Patents.

Q In an effort to get around the law, can a farmer advertise farmer saved seed of a protected variety as "variety not stated"?
A No, selling a protected variety as VNS is a violation of the law.

Q If a farmer harvests and stores his seed at the local elevator then at planting time asks the elevator to plant his acres with his stored seed, is this seed considered farmer saved seed under PVP?
A Unless the seed was kept in a separate bin, then it is considered commingled and assurance as to variety would be unknown. The acres would be considered as illegally planted.

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OKLAHOMA STATE UNIVERSITY EXTENSION

AG NEWS

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Oklahoma State University

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HARD CORE IN TOMATOES

During stressful weather--usually aggravated by excessive fertilization--the central core of a tomato may become tough and turn greenish white. The walls also may become pale and corky. This is usually a temporary condition known as "hard core." Fruit that develops later is often free of this condition.

Older varieties of tomatoes normally have five distinct cavities that are filled with seeds and jelly-like material called locular jelly. However, many newer tomato varieties possess genetic traits to make the fruit meatier and firmer with the seeds being produced all over the inside of the fruit rather than in the five distinct cavities. These types of tomatoes do not seem to produce a hard central core nearly as readily as ones that are not as meaty.

The older variety, Jet Star, which has been widely grown for many years by gardeners, has a tendency to produce a hard core when stressed. Newer varieties such as Mountain Spring, Mountain Fresh, Daybreak, Sun Leaper, Sunmaster, Celebrity, Carnival, and other 'semi-determinate' varieties are less likely to suffer from this condition.

ORNAMENTALS

Lilacs with Dead Canes

Lilac borers are insects whose larvae bore into stems usually during May and June. A sawdust-like material call frass is often seen around the base of stems after it has been pushed out the hole made by the borer. Canes often wilt and die during late summer. The larvae passes the winter inside the dead canes and pupates the following spring, usually during April. The adult, clear-winged moth resembles a wasp and often emerges during May through June though there is a great deal of variability. Eggs are laid on the stems of lilac, and the cycle starts over again. There is one generation on the high plains.

Though it is too late to spray for lilac borer this year, removal and destruction of dead canes will help reduce populations next year.

Too Late to Spray for Bagworms

Bagworms can cause a great deal of damage during the last few weeks of feeding, and gardeners may be tempted to spray for them now. But late-August sprays are totally ineffective. Understanding the life cycle of this moth will explain why and help you plan effective control measures.

On the High Plains, bagworms normally finish feeding and close their bags during mid-August. After that, insecticides are ineffective because they cannot reach the pest. After the bag is closed, the male pupates and will eventually emerge as a flying moth. Bagworms are unusual because they use an uncommon form of reproduction called paedogenesis in which the female larva reproduces. The female larva never pupates, but produces mature sexual organs during the last larval instar. She releases a sex hormone that attracts the male. The male flies to the female's bag and mates with her while she remains in the bag. After mating, the female's body fills with eggs. She will eventually die inside the bag, and her body will become a dried, mummified egg case that will protect the eggs during the winter. Each female case normally contains 300 to 1,000 eggs. Egg hatch generally does not occur until the next spring, usually around the end of May.

Insecticide sprays are more likely to be effective when the bagworms are small. Even Bacillus thuringiensis (Dipel, Thuricide) can be effective on young bagworms. Other commonly used pesticides include acephate, cyfluthrin, permethrin and malathion. During most years, spraying during the latter half of June will provide good control. Don't forget that insecticides are not the only means of control. Hand picking and destroying the bags are effective any time the bags are large enough to be picked.

EFFECT OF PLANTING DATE AND SEED TREATMENT ON WHEAT DISEASES

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For a version of this update with photographs please go to the following web site: http://www.entoplp.okstate.edu/Pddl/advisory.htm and click on volume 6, number 23

Wheat commonly is used in Oklahoma as a dual-purpose crop and thereby is grazed by cattle in the late fall and winter, and then also used to produce grain. Planting wheat as a "grain-

only" crop would generally occur in October; however, when used for "grazing + grain," wheat is planted in early to mid-September to maximize forage production. Planting wheat this early significantly increases the likelihood that diseases such as wheat streak mosaic virus, high plains virus, the aphid/barley yellow dwarf virus complex, and root and foot rots will be more prevalent and more severe.

Wheat streak mosaic virus (WSMV) & the high plains virus (HPV): WSMV and HPV are transmitted by the wheat curl mite. Mites and viruses survive in crops such as wheat and corn, as well as many grassy weeds and volunteer wheat. In the fall, mites spread to emerging seedling wheat, feed on that seedling wheat, and transmit the virus to the young wheat plants. Wheat infected with WSMV or HPV in the fall is either killed by the next spring or will be severely damaged. No seed treatments are effective in controlling WSMV/HPV. However, planting late in the fall (after October 1 in northern OK and after October 15 in southern OK) and controlling volunteer wheat are two practices that provide some control of WSMV and HPV. It is critical to completely destroy volunteer wheat at least two weeks prior to emergence of seedling wheat because the wheat curl mites have a life span of 7-10 days. Thus, destroying volunteer wheat at least two weeks prior to emergence of seedling wheat should greatly reduce mite numbers in the fall. Although not widespread in 2007, both WSMV and HPV were observed in Oklahoma in 2007. That fact, coupled with the great amount of volunteer wheat present during the summer means that producers need to be extra diligent in controlling volunteer wheat before planting their wheat this coming fall as there likely will be a high mite population in the fall because of the high amount of volunteer wheat. For more information on WSMV and HPV, see OSU Extension Facts 7636 (WSMV) or go to the Plant Disease & Insect Diagnostic Laboratory web page at: http://www.ento.okstate.edu/ddd/hosts/wheat.htm.

Aphid/barley yellow dwarf virus (BYDV) complex: BYDV is transmitted by many cereal-feeding aphids, and hence, is associated with aphid infestations. Fall infections by BYDV are the most severe because the virus has a longer time to damage the plant as compared to infections that occur in the spring.

Several steps can be taken to help control BYDV. First, a later planting date (after October 1 in northern OK, and after October 15 in southern OK) helps to reduce the opportunity for fall infections. Second, some wheat varieties (e.g., Custer, 2174, and Ok102) seem to tolerate aphids and/or BYDV better than others; however, please be aware that no wheat variety has absolute resistance to the aphid/BYDV complex. Third, control the aphids that transmit BYDV. This can be done by applying contact insecticides to kill aphids, or by treating seed before planting with a systemic insecticide. Unfortunately, by the time contact insecticides are applied, aphids frequently have already transmitted BYDV. Systemic, seed-treatment insecticides such as Gaucho 480 (Imidacloprid - Gustafson Corp.) and Cruiser (Thiamethoxam – Syngenta) (Table 1) can effectively control aphids during the fall after planting, but in some years aphids are sparse and such a treatment may not be as beneficial as in years when aphids are numerous in the fall. Be sure to thoroughly read the label before applying any chemical. For more information on the aphid/barley yellow dwarf virus complex, go to the web page for the Plant Disease and Insect Diagnostic Laboratory at: http://www.ento.okstate.edu/ddd/hosts/wheat.htm.

Root and foot rots: These include several diseases caused by fungi such as dryland (Fusarium) root rot, Rhizoctonia root rot (sharp eyespot), common root rot, take-all, and eyespot (strawbreaker). Controlling root and foot rots is difficult. There are no resistant varieties or fungicide treatments that control all of these diseases at a consistently high level. However, seed treatments such as Dividend XL and Gaucho XT (Table 1) are a combination of chemicals that are active against aphids (and hence BYDV), smuts and bunts, and seedling root rots. In contrast, a chemical such as Raxil MD offers activity against bunts, smuts and seedling root rots but not insects. Hence, CAREFULLY read the label of any seed treatment to be sure it offers activity against the diseases of concern in your situation.

Late planting (after October 1 in northern OK, and after October 15 in southern OK) also can help reduce the incidence and severity of root rots, but planting late will not entirely eliminate the presence or effects of root rots. If you have a field with a history of severe root rot, consider planting that field as late as possible or plan to use it in a "graze-out" fashion if that is consistent with your overall plan.

For some root rots, there are specific factors that contribute to disease incidence and severity. For example, a high soil pH (>6.5) greatly favors disease development of the root rot called take-all. Thus, when liming fields to correct for acid soils, be sure not to raise the pH above this level. Another practice that can help limit take-all and some of the other root rots is the elimination of residue. However, elimination of residue by tillage or burning does not seem to affect the incidence or severity of eyespot (strawbreaker). For more information on wheat root rots, take-all and eyespot (strawbreaker), see OSU Extension Facts F-7622 or go to the web page for the Plant Disease and Insect Diagnostic Laboratory at: http://www.ento.okstate.edu/ddd/hosts/wheat.htm.

Seed treatments: Planting treated wheat seed represents an additional cost input but should be carefully considered for several reasons including:

Control of common bunt (also called stinking smut) and loose smut. The similarity of these names can be confusing. Both affect the grain of wheat, but whereas common bunt spores carryover on seed or in the soil, loose smut carries over in the seed. Seed treatments are highly effective in controlling these diseases. Hence, if common bunt was observed in a field and that field is to be planted again with wheat, then it is recommended that the planted wheat seed be treated with a fungicide effective against common bunt. Similarly, if loose smut was observed in a field and that seed is to be used as seed wheat, it is recommended that a systemic seed treatment effective against loose smut be applied. For more information on common bunt & loose smut, see http://www.entoplp.okstate.edu/ddd/hosts/wheat.htm, consult the "2007 OSU Extension Agents' Handbook of Insect, Plant Disease, and Weed Control (OCES publication E-832)," and/or contact your County Extension Educator.

Enhancing seedling emergence and stand establishment by control/suppression of root, crown and foot rots. This was discussed above under "Root and Foot Rots." Refer to Table 1 for a more detailed description.

Control of the aphid/BYDV complex. Again, this was discussed previously; refer to Table 1 for a more detailed description of seed treatments useful for this objective.

Deciding whether or not to plant treated seed is something to consider carefully. Treating seed represents an additional cost, but there are potential benefits also associated as described above. If a seed treatment is used, **be sure to carefully read the label to ensure that the treatment is intended (and labeled) for your desired goal, and that it is applied at a rate labeled for the desired activity**. For more information on seed treatments, their intended uses and rates consult the "2007 OSU Extension Agents' Handbook of Insect, Plant Disease, and Weed Control (OCES publication E-832)," and/or contact your County Extension Educator.

CORN PRICES, FEEDER CATTLE DEMAND AND RETAINED OWNERSHIP

By Derrell S. Peel

Although the corn crop still looks quite good and corn prices have fallen some since the spring, corn prices in the Southern Plains are still $1.00 - $1.50/bushel higher than this time last year. Even if we are successful at harvesting a record corn crop this fall, corn prices will remain well above the average of the past few years. As a result, the current feedlot cost of gain is close to $0.75/pound for steers and closer to $0.80/pound for heifers. Despite higher cost of gain, feeder cattle prices are very close to year ago levels. The lesson here is that higher corn prices have not reduced overall demand for feeder cattle. Feedlots still want to feed cattle but they want to feed different cattle now than they wanted last year. There is still demand for feeder cattle and that fact, combined with limited feeder supplies is what is keeping feeder prices high.

Feedlots adjust to high feed prices primarily by adjusting the placement weight of feeder cattle. Feedlots can easily utilize feeder cattle within a range of 600 to 900 pounds and sometimes outside of that range. In deciding whether to buy a 650 pound animal or an 850 pound animal the feedlot considers the cost of gain and whether it is cheaper to buy those pounds or put them on in the feedlot. When feedlot cost of gain is low, feedlots will demand lightweight feeder cattle more than heavy feeder cattle. This raises price for lightweight feeders relative to heavy feeders and lowers the value of gain for feeder cattle from a stocker perspective. Thus cheap feedlot cost of gain leads to low value of stocker gain. Similarly, when feedlot cost of gain is high, feedlots would rather "buy those pounds" and thus bid up heavy feeder prices relative to lightweight feeder prices. Therefore, high feedlot cost of gain leads to higher value of gain outside of feedlots. This is especially true when feeder price levels are generally high anyway. In early August, the value of gain (OKC basis) for steers from 475 to 875 pounds was roughly $0.80/pound and was constant over the entire weight range. It is no coincidence that this value of gain is close to the feedlot cost of gain levels reported above. It means that feeder markets have adjusted efficiently to higher grain prices.

What this means for stocker and cow-calf producers is that there is an opportunity to look at putting additional weight on animals before they go to the feedlot. Rather than selling calves at weaning or turning over stocker cattle at lighter weights, producers should evaluate the potential for additional time and gain in stocker or retained ownership programs. Obviously, it will depend on having viable production programs, feed resources and other management considerations but the incentive is quite strong. When feed grain prices are high, the returns to forage based gains improves. Responding to this incentive is precisely the mechanism by which the cattle industry exercises the flexibility we have to utilize less grain and increase the competitiveness of beef relative to other meats.

THIS YEAR TEST THE FORAGE SORGHUM BEFORE YOU CUT!

By Glenn Selk

Hot summer weather brings about heat stress on summer annuals. Stressed plants such as the forage sorghums can occasionally accumulate dangerous concentrations of nitrates. These high nitrate plants, either standing in the field, or fed as hay, can cause abortion in pregnant cattle, or death if consumed in great enough quantities. Nitrates do not dissipate from suncured hay (in contrast to prussic acid), therefore once the hay is cut the nitrate levels remain constant. Therefore, producers should test hay fields before they cut them for hay. Stop by any OSU County Extension office for testing details. This gives them an additional option of waiting and allowing for the nitrate to lower in concentration before harvesting the hay. The major sources of nitrate toxicity in Oklahoma will be summer annual sorghum type plants, including sudan hybrids, sorgo-sudans, sorghum-sudans, millets, and Johnsongrass. Other plants also may accumulate nitrates. See OSU Fact Sheet F-2903.

Some of the management techniques to reduce the risk of nitrate toxicity (Note: **the risk of this poisoning cannot be totally eliminated**), include:

1. Test the crop before you harvest it. IF it has an elevated concentration of nitrates, you still have the option of waiting for normal plant metabolism to bring the concentration back to a safe level. And experience tells us that we cannot estimate nitrate content just by looking at the field.
2. Avoid cutting the hay immediately after drought-breaking rain. Often the highest concentrations of nitrate will be in the first 48 hours after the first rain after an extended heat and drought stress period. Usually it takes the plants at least about a week to return to normal nitrate concentrations if the weather and moisture conditions remain favorable.
3. Raise the cutter bar when harvesting the hay. Nitrates are in greatest concentration in the lower stem. Raising the cutter bar may reduce the tonnage, but cutting more tons of a toxic material has no particular value.
4. Cut in the afternoon or early evening hours. Some plant scientists have theorized that nitrate accumulation increases during the night time when photosynthesis is not occurring. After several hours of daylight, the plant begins to grow and utilize the nitrates for protein synthesis. More research is being planned to test this theory.
5. Know the extent of nitrate accumulation in the hay. If you still have doubt about the quality of the hay, send a forage sample to a reputable laboratory for analysis, to get an estimate of the nitrate concentration. This will give some guidelines as to the extent of dilution that may be necessary to more safely feed the hay.
6. Allow cattle to become adapted to nitrate in the hay. By feeding small amounts of the forage sorghum along with other feeds such as grass hay or grains, cattle begin to adapt to the nitrates in the feed and develop a capability to "digest" the nitrate with some less danger. Producers should avoid the temptation of feeding the high nitrate forage for the first time after a snow or ice storm. Cattle will be stressed, hungry, and unadapted to the nitrates. They will consume unusually large amounts of the forage and be in high risk for nitrate toxicity. Be sure to read OSU Fact Sheet F-2903 closely before cutting and feeding any sorghum forage hay.