

BRANCHING OUT

OCTOBER, 2009

FALL - A TIME TO REFLECT

We are rapidly approaching the end of another business season. The days are getting shorter and cooler and the landscape is preparing for winter. (Plants aren't the only ones getting ready; I saw a landscaper's pickup with a new snow blade on it today!). Gardeners and maintenance companies are changing out summer color for fall, mowers are getting in their last licks, and landscapers are gearing down as well. This time of year offers an opportunity to slow down and take a deep, reflective breath.

Fall is always a busy time in the green industry. Mums, kales, pansies and a grand assortment of bulbs need to be planted along with leaf cleanup and fall bed prep. Contrary to popular belief, September and October aren't just for punching small holes in the turf and spreading grass seed and fertilizer. It is also time to cultivate soil amendments into the beds, cut back perennials, and maybe even plant some new ones, and protect those roses and tender plants before the cold. Sounds like busy work but it sure makes a difference come spring.

But after all that busy work, fall provides a great time to drive around your business areas, especially those jobs you did three, five or even ten years ago and see if what you are witnessing is what you originally intended. Are the trees you planted near the house, too close? Can you see the main entrance or do you only see a massive Japanese Maple or Flowering Crab (they were so small at the nursery!)? There are actually good reasons to read all the descriptive information offered by Dirr. Do the seasonal colors work with the design or fight for recognition? What worked and what didn't? What is still alive and what is just hanging on (there is a difference between surviving and thriving)? Now, don't ignore other company's work – lessons learned are lessons learned.

While on your journey, keep your eyes open and truly looking. The Midwest is a challenge in growing and gardening. Evergreens are always an interest because of such challenges. The ever popular Austrian Pine (*Pinus nigra*) has had another tough year. It seems the more we plant the more they die (surviving or thriving?). Watch to see what has been done that works and what didn't. Eastern White Pine (*Pinus strobus*), if it establishes, does well in our urban landscapes and doesn't fall prey to the all too common maladies that kill Austrian and Scotch Pine. The idea here is longevity. The older landscapes really tell the story.

The many varieties of upright Juniper (including the naturalized Eastern Red Cedar (*Juniperus virginiana*)) and Green Giant Arborvitae (*Thuja plicata* 'Green Giant') are good alternatives but you will notice, more often than not, are planted too close together or over planted, which limits long term success. Once again, see what you've done and what others have done. Evergreens have a habit of showing off when leaves have fallen.

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WHAT IS THE DIFFERENCE BETWEEN SOFT AND HARD SCALES?

Scales are common insect pests of ornamental trees and shrubs in landscapes. Scales are typically a problem in urban environments due to the absence of natural enemies (parasitoids and predators) and/or plants may be experiencing physiological stress such as too much or too little water or fertilizer. Scales feed, using their tube-like mouthparts, within the vascular system, where water and nutrients are transported. Scales may resemble galls on plants. The best way to distinguish scales from plant galls is to use your fingernail and flip scales over. Galls, when removed with the fingernail, usually break off with bark attached.



Euonymus Scale

Many scales are host-specific, feeding on only certain plant species, whereas other scales feed on a wide range of plant species. Scales rarely kill a plant by themselves but may predispose plants to attack from wood-boring insects or secondary pathogens such as fungi. There are two types of scales: soft or bark scales, and hard or armored scales. Characteristics of soft scales include 1) usually one generation per year, 2) produce honeydew, 3) typically overwinter as 1st or 2nd instars, or immature fertilized females, 4) appear convex in shape or resemble a helmet, and 5) possess a protective body wall. Characteristics of hard scales include 1) commonly two or more generations per year, 2) do not produce honeydew, 3) typically overwinter as mature females or eggs underneath the body of dead females, 4) appear circular or rounded in shape, and 6) possess a separate protective covering.

There are several exceptions to these characteristics that may be confusing. For example, obscure and euonymus scale, which are hard scales, do not overwinter as eggs. Oystershell and pine needle scale, which are also hard scales, are not rounded but are more elliptical in shape. Common scales encountered throughout the Midwest are listed in Table 1.

Table 1. Soft and hard scales found feeding on trees and shrubs in landscapes throughout the Midwest.

Soft Scales:

Cottony maple scale (*Pulvinaria innumerabilis*)
 European elm scale (*Gossyparia spuria*)
 Fletcher's scale (*Parthenolecanium fletcheri*)
 Magnolia scale (*Neolecanium cornuparvum*)
 Pine tortoise scale (*Toumeyella parvicornus*)
 Tuliptree scale (*Toumeyella liriodendrii*)
 Kermes scales (many different types)

Hard Scales:

Obscure scale (*Melanaspis obscura*)
 Oystershell scale (*Lepidosaphes ulmi*)
 San Jose scale (*Quadraspidiatius perniciosus*)
 Euonymus scale (*Unaspis euonymii*)
 Pine needle scale (*Chionaspis pinifoliae*)
 Scurfy scale (*Chionaspis furfura*)
 White peach scale (*Pseudaulacaspis pentagona*)
 Juniper scale (*Carulaspis juniperi*)

Eggs are laid underneath the female scale covering. Hard scales produce a waxy covering called a "test," which is separate from the body. This protective covering is formed from molted skins. Soft scales do not possess a "test," or a waxy covering. Hard scales typically reproduce sexually although there are instances in which asexual reproduction occurs where females produce live offspring. Depending on the species, up to 2,000 eggs may be produced by a single female. Eggs hatch into oval,

WHAT IS THE DIFFERENCE BETWEEN SOFT AND HARD SCALES?..... *CONTINUED*

flat mobile crawlers that vary in color (orange, yellow, gray, or brown) depending on the species. Many soft scale species reproduce via parthenogenesis, which results in each female capable of reproducing without fertilization. Scales disperse by means of the mobile first instar or crawler stage. Crawlers are commonly located on the undersides of leaves or branches, and on the sides of tree trunks, which provide protection from direct sunlight, wind, and rain. Crawlers eventually settle down and begin feeding by inserting their mouthparts into plant tissue and withdrawing plant fluids.

Soft scales feed on plant fluids that translocate through the vascular system, primarily the phloem or food-conducting tissues. The food canal in their mouthparts transports large quantities of plant fluids (containing carbohydrates, amino acids, and proteins) from phloem sieve tubes. These plant fluids, after passing through the digestive tract of the scale, are emitted as honeydew. Soft scales can produce copious amounts of honeydew, which is a clear sticky liquid exudate that serves as a growing medium for sooty mold fungi resulting in a black coating on leaves. This coating interferes with the plant's ability to manufacture food via photosynthesis. In contrast, hard scales do not produce honeydew as they feed differently than soft scales. Hard scales insert their mouthparts into plant tissues and rupture and destroy plant cells; oftentimes bypassing the plant vascular bundles that are responsible for transporting water and nutrients through the plant. Furthermore, their food canal contains various kinds of cells that don't ingest or transport large quantities of plant fluids.

Scales, when feeding, may inject toxic saliva into plant tissues. Also, feeding by scales opens up wounds that provide entry sites for plant pathogens (e.g. fungi). Males eventually molt into very small, winged, gnat-like insects that live for up to 2 weeks. Their primary function is to fertilize females (for soft scales). Hard scale females continue to molt and later lose their legs, remaining sessile for the remainder of their life. In contrast, soft scale females retain their legs. Both hard and soft scale females eventually die and their bodies form a protective covering over the eggs and for emerging crawlers.

Contact insecticides are effective against both scale types if applications are performed when crawlers (which may be difficult to see) are active. For example, horticultural oils will kill crawlers and other immature stages as long as thorough coverage of all plant parts is obtained. However, once scales develop a hardened covering then many contact insecticides become less effective (in terms of mortality) because the spray solution will not penetrate and actually contact the scale. Systemic insecticides, when applied to the soil, may be effective in controlling or regulating soft scale populations because they feed on plant fluids, which contain the active ingredient of these insecticides that is transported through the plant vascular system. However, distribution of the active ingredient through the various plant parts (e.g. twigs, branches, and leaves) may vary. As such, depending on the feeding site, scales may not always ingest a lethal concentration of the active ingredient. Furthermore, systemic insecticides are less effective on hard scales because these scales are not feeding exclusively on plant fluids.

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Pine Needle Scale

FALL - A TIME TO REFLECT.....*CONTINUED FROM PAGE 1*

Pay attention to what the junipers look like now that they have grown past growers' shearing. Did they get too large, or are they now too close together?

Blue Atlas Cedar (*Cedrus atlantica* 'Glauca') has been in 'vogue' the last few years, but alas, Dirr has been ignored again! This is a great time to critically view these wonderful blue princes in the landscape because of the bright color and unique texture. If you planted this tree three years ago, now is a great time to see if your placement was correct. They need room to grow. This includes the weeping variety. Over the years, this great addition to the landscape will reach out and grab you in a direction you may not have planned for.

In your travels, look for the Spruces you put in the ground. Colorado Blue Spruce (*Picea pungens* 'Glauca') are always being requested and planted. From a gardeners point, they are difficult to grow, usually due to improper prep work or no prep work. Blue Spruce do not like an abundance of water and Kansas soils offer challenges – challenges that are too often avoided or overlooked in planting preparation. Did you plant that big Blue Spruce in the middle of an irrigated lawn? Did it work? Is it still alive or replaced with something else? Norway (*P. abies*) and Serbian Spruce (*P. omorika*) appear to do better in an urban planting. Too much water is still an issue but both species tend to survive nicely and even thrive, especially when water issues and proper planting preparation are in order. Annual spraying with all spruce species is usually a good idea to ensure good health and handsome plants. A common problem with Serbian Spruce planting is, because they are narrower in their youth, they get stuck in corners or very close to entrances. They do group plant nicely for smaller areas but here again, they need room to grow.

As long as you are out and about, visit the local nurseries – wholesale and retail – and see what is being offered. There are always good deals and fall is a great time to sell fall color to new and old customers. There is more to fall color than mums, pansies and pumpkins. Dogwoods, Sourwoods, Maples, Oaks, Bald Cypress, Burning Bush and Sweetspire, to mention just a few, give wonderful free shows all over town and provide sales opportunities while you are visiting those old jobs.

So, as the season winds down, take time to breathe deep and reflect on what you've accomplished, enjoy the fall, and use the time to 'prep the soil' for next season.

Sam Dodge, Board Member
Sam's Spade, Olathe, KS

Congratulations on becoming Certified!

**Nicole Marshall & Michelle Swartz
of Turf Design, Inc.**

Nicole and Michelle recently passed the KNLA Certified Nurseryman's Exam

The next Kansas Certified Nurseryman Exam will be given during the 2010 WESTERN.
Watch our website kansasnla.org for more information.

Short-sleeve Navy Polo or KNLA Hat



Wind shirt - a few 2XL are available



Short-sleeve t-shirt in green or tan



Long-sleeve t-shirt in brown or forest

KNLA Clothing Order Form

KNLA has clothing items for sale. Each item has been embroidered with the recently revised, KNLA color logo. With the exception of the hats, sizes range from Medium to XL. *Shipping is \$3 per item OR pickup at the WESTERN!*

Hats (khaki)	\$10.00
T-shirts	
short sleeve (light green or tan)	\$10.00
long sleeve (hunter green or brown)	\$15.00
Polo Shirt (navy)	\$20.00
Wind Shirt	\$35.00

Ship order to:

Name: _____

Address: _____

Item Requested: _____

Quantity: _____ Size _____

Billing:

TOTAL AMOUNT ENCLOSED \$ _____
(please add \$3 per item for shipping)

Check _____ Money Order _____

Visa/Master/Discover Card Number: _____

Expiration Date: _____

Signature: _____

Make checks payable to KNLA

Make checks payable and return to: KNLA, 1604 Beechwood Ter., Manhattan, KS 66502

COME SAY **HELLO**
to the NATIONAL HORTICULTURE INDUSTRY
at 2010 WESTERN, Jan. 3-4, Overland Park, KS (Metro Kansas City)

Come Say Hello to the 2010 WESTERN

The WESTERN is focused on connecting the national horticulture industry through innovative education, networking, and trade! The 2010 WESTERN is all about providing you (attendees AND exhibitors) the tools you need to seize the opportunities and meet the challenges of the future. And be more profitable! Keep up with the latest news and announcements about the WESTERN – subscribe to the [e-newsletter](#) on our website, www.wnla.org, follow us on [Twitter \(@wnla\)](#), connect with us on [LinkedIn](#), be our friend on [Facebook](#), and watch our videos on [YouTube!](#)

The NEW WESTERN –

Streamlined Two-Day Event. We know your time is valuable. That's why the 2010 WESTERN features a streamlined two-day schedule packed full of education, networking & trade. In fact, while the 2010 WESTERN is shorter time-wise it features the most education ever – 55 hours - and the most networking opportunities ever, all while providing a more interactive and fun trade show floor full of world-class exhibitors and top-notch, innovative products.

Education. Lots of it! The 2010 WESTERN will have FIVE tracks of interactive education - workshops, panel discussions, lectures, and classroom style sessions where you bring your computer or pencils/ drawing materials, and one where you even bring some of your own marketing pieces and sales figures.

Our [Innovate](#) track will show you the future of business; we'll discuss wind turbines, electric utility vehicles, how to use social media to effectively market your company (sponsored by [American Nurseryman](#)), the trend toward kitchen gardening, and inspire you to look at your own business and to discover new ways to brand yourselves.

Our [Business](#) track provides "how to" information to help you meet some of your hardest business challenges. Robert Hendrickson and Sid Raisch (sponsored by [Fisher Farms](#)) will present a full-day workshop on marketing and finance while other presenters show you how to implement Lean and sustain the improvements, save money with energy efficiency, save money on your insurance, and get state incentives for your business.

Our [Design & Build](#) track discusses the design process in a workshop with practical information that you will put to use immediately in your design work. Our speakers will also discuss LED lighting, integrating sustainable techniques into design, the Greensburg, Kansas master plan, rain gardens, and how to make more \$\$ in less time

Our [Horticulture](#) track features experts on a range of horticultural topics. Speakers include Dr. Olsen (sponsored by [Greenleaf Nursery Company](#)), a research geneticist with the U.S. National Arboretum, Dr. Todd Lasseigne speaking on new plant introductions and plant explorations in Japan, Jeff Gibson from Ball Horticultural discussing seasonal color and perennials in containers, Yale Youngblood with [GIE Media](#) discussing trends, and Andy Pulte speaking on winter gardens, among others.

Come Say Hello to the 2010 WESTERN *continued*

Our [WESTERN University](#) track, sponsored by [KAT Nurseries](#), will continue to bring in the top university professors and researchers to discuss a variety of horticultural topics including native plants, managing diseases, weed control, insecticides, alternative substrates, ornamental grasses, wildflowers, plant nutrition, and managing staff.

The Trade Show. Fun, interactive, and full of top suppliers and the latest products, the 2010 WESTERN will be the place to meet with industry leaders and buy innovative products.

Best of all, it's FREE! [Register](#) for the [GIE Media](#) Free Exhibit Hall Only Pass for free access to the trade show floor.

Enter to win an electric John Deere Gator TE complements of [Van Wall Group](#), [John Deere](#), and [John Deere Landscapes](#).

We'll have an Official Trade Show Host on the trade show floor at the 2010 WESTERN. [Tim Scott](#), the official In-Game Host for Royals Game Entertainment, will be the official Trade Show Host for the WESTERN! Be part of the fun – watch for Tim and his camera crew on the trade show floor. You may just find yourself on the big screen television!

Meet with colleagues over lunch or a beer and appetizers at the [GIE Media Café](#) and [WESTERN Pub](#), both situated on the trade show floor.

And if you aren't on [twitter](#) do it – that is the only way you will find out when and where the “tweetup” is at the 2010 WESTERN!

And WESTERN exhibitors let us promote you all year long via [Twitter](#), [Facebook](#), [YouTube](#), and our [e-newsletter](#) that goes to over 9,000 inboxes every Monday morning!

For more information on the 2010 WESTERN, visit [www.wnla.org](#) or call Sarah at 888.233.1876.

The 2010 WESTERN Annual Meeting and Trade Show is Jan. 3-4 at the Overland Park Convention Center in Overland Park, Kan. For updates and more information, visit [www.WNLA.org](#) or e-mail [info@WNLA.org](#).

KNLA UPCOMING EVENTS

January 3 - 4, 2010: The WESTERN at the Overland Park Convention Center, Overland Park, KS

January 3rd (Sunday) - Kansas Certified Nurseryman Exam will be given from 8 am to 12 pm at the WESTERN, Overland Park Convention Center, Overland Park, KS Each person taking the exam must order their own Training Manual (see manual cost and [order info on our website](#)). **Test Fee:** Members \$25, Non Members \$75. **Pre-register** by calling 785-313-3973 or email kansasnla@sbcglobal.net.

January 3rd, 2:00 p.m. - Kansas Nursery & Landscape Association Business Meeting
More information will be sent later regarding the exact location of this meeting.