Why we would partner

Science meets business

• Science
  • To convey the underlying science of many horticultural principles and practices
  • To discuss many components of a complete landscape (turf, trees, shrubs, annual color beds, hardscape & infrastructure)
Science meets in-field feasibility

• Every task we do in the landscape should be based on science.
• Science isn’t always so easily seen.
• Past experience can be backed by science…..or not!
• The science can be profitable!
  – Your customers may crave and pay for it.
The 2012 USDA Plant Hardiness Zone Map is the standard by which gardeners and growers can determine which plants are most likely to thrive at a location. The map is based on the average annual minimum winter temperature, divided into 10-degree F zones.

For the first time, the map is available as an interactive GIS-based map, for which a broadband Internet connection is recommended, and as static images for those with slower Internet access. Users may also simply type in a ZIP Code and find the hardiness zone for that area.

No posters of the USDA Plant Hardiness Zone Map have been printed. But state, regional, and national images of the map can be downloaded and printed in a variety of sizes and resolutions.
Hardiness Zones – determined by average minimum winter temperatures
http://planthardiness.ars.usda.gov/PHZMWeb/

Heat Zone Map – 12 zones based on number of days > 86F
http://www.ahs.org/gardening-resources/gardening-maps/heat-zone-map
Why we would partner

Science meets business

• Business
  • To introduce new concepts and/or confirm your current practices
  • It’s a chess game…..simple concept!
    – Hand vs equipment
      • Auger
      • Georgia buggy
  • To challenge your standard practices with those presented
    – Line level vs transit
Why we would partner

Science meets business

• Business
  • Business assumptions
    – Know your plants - 50 yr old vs 20 yr old choices
    – Profitability
    – Employee retention
    – BMPs
    – Certification & Licenses
    – Honesty & integrity in business
Shout out to Mr. Stubbs
Post-interview conclusions

• How many of you can relate to this type of customer?

• What are the things he wants?
  – $10K budget
  – Trailer parking
  – Walking path through nandina garden
  – Garden all on one level
  – Low maintenance w/ no irrigation

• What things are not possible?

• Is there profit to be made here? Do you want this client/project?
Issues surrounding design, installation and maintenance

• Categories:
  – Plant selection
  – Soil remediation
  – Construction challenges
  – Climatic fluctuations
  – Pest management
  – Financial negotiations
Quick Comparisons

Dream

Reality
Quick Comparisons

Dream

Reality
Plant Selection

- Plant are designed to flourish in the right place, site analysis is key to success
  - Years of breeding work yields certain plant habits
    - Size, shape, bloom, etc.

Little Ruby™ Dogwood

(Cornus 'NCCH1' PP26,542)

A truly unique new dogwood with a compact form and semi-evergreen foliage that sports a red flush on young leaves followed by a dark maroon fall color. If that wasn’t enough, it has pink flower bracts that range from single to double. Can be trained as a large shrub or small tree.

For information on licensing, contact Star Roses and Plants, Bradd Yoder, Woody Products Manager, braddyoder@starrosesandplants.com, 410-703-3090.

Developed as a collaborative project by NC State University and the NC Nursery & Landscape Association with support from the Kenan Institute and the NC Biotechnology Center.
Plant Selection

• Plant installation should be done with future maintenance in mind
  – Yearly mulch applications should be tempered
    • Roots need oxygen for respiration
    • Soil pH can be negatively altered
    • Heat generated from decomposition
    • A 3” application at planting should only be covered with 1” annually
  • Some companies charge for remediation services once a new contract is assumed

• Granville Co. Extension Publication
Plant Selection

• Plant availability shouldn’t always govern selection
  – Don’t just take the plants that are available
    • Grade B, C & cull plants will always be B, C & cull plants

• Many things can’t be undone once the plants leave the nursery
Plant Selection

- Root pruning in the nursery enhances longevity of trees in the landscape and decreases girdling root presence
- Shaving of the root ball before planting can decrease trunk-girdling roots
Plant Selection

- Will the customer pay for replacement 5-10 years from now when the roots girdle or the open wounds on the plant have succumb to pest invasion?
- **American Standards for Nursery Stock**
Plant Selection

• What is our biggest selection challenge?
  – Deer, rodents, other antagonists
    • Deer resistant doesn’t mean deer-proof
    • bulbs are tasty to many critters
    • Chatham Co. Extension Publication
    • Better Homes and Gardens Publication
    • Warranty work - who is responsible?

JC Raulston -”deer don’t read plant labels”
Soil Remediation

• How many take a soil test at each site annually? Are you charging for time to take the samples?

• How much would you save on inputs?
Quick Comparisons

Dream

Reality
### Soil Report

**Client:** Lee Ivy  
4415 Beryl Rd  
Raleigh, NC 27606  

**Advisor:**  

**Sampled:** 08/26/2015  
**Received:** 08/26/2015  
**Completed:** 09/04/2015  
**Sampled County:** Wake  

**Farmer:** Barrett Johnson  

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**Agronomist's Comments:**

This report provides Test Results and Recommendations for each sample submitted for testing. Look for Lime Recommendations and N-P-K Fertilizer Recommendations. If lime is needed, application at the indicated rate will raise soil pH to the optimal level for the plant you specified. Common target pH values are as follows: 5.0 for azalea, camellia, rhododendron and mt. laurel; 5.5 for centipedegrass; 6.0 for other lawn grasses, shrubbery, and; flowering plants; and 6.5 for vegetable gardens. N-P-K Recommendations are based on the nitrogen (N) needs of the plants being grown and the soil test results for phosphorus (P-I) and potassium (K-I); a 50 to 70 index for either is optimum. If the exact fertilizer cannot be found, find the closest match and adjust the rate accordingly. Refer to "Understanding the Soil Report" (last page of this report) for additional explanation and links to helpful information.

<table>
<thead>
<tr>
<th>Sample ID: BMJ01</th>
<th>Lime History:</th>
<th>Test Results:</th>
<th>Lime Recommendations</th>
<th>N-P-K Fertilizer Recommendations *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>pH = 6.7</td>
<td>0.0 lb per 1,000 sq ft</td>
<td>20 lbs per 1,000 sq ft 5-10-5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.0 - 8.0</td>
<td><strong>Optimum pH range</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lee Ivy</th>
<th>pH 6.7</th>
<th>Optimum pH range</th>
<th>0.0 lb per 1,000 sq ft</th>
<th>20 lbs per 1,000 sq ft 5-10-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>HM%</td>
<td>0.71</td>
<td>W/V</td>
<td>0.70</td>
<td></td>
</tr>
<tr>
<td>CEC</td>
<td>21.1</td>
<td>Mn-I</td>
<td>358</td>
<td></td>
</tr>
<tr>
<td>Zn-I</td>
<td>521</td>
<td>Cu-I</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>S-I</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* If you cannot find the fertilizer recommended here, choose one from the same Group (A, B, C or D) listed on the last page of this report.

**Note:** This soil test does not measure nitrogen (N) levels. N fertilizer recommendations are based only on needs of the designated crop.
### Agronomist's Comments:

This report provides Test Results and Recommendations for each sample submitted for testing. Look for Lime Recommendations and N-P-K Fertilizer Recommendations. If lime is needed, application at the indicated rate will raise soil pH to the optimal level for the plant you specified. Common target pH values are as follows: 5.0 for azalea, camellia, rhododendron and mt. laurel; 5.5 for centipedegrass; 6.0 for other lawn grasses, shrubbery, and; flowering plants; and 6.5 for vegetable gardens. N-P-K Recommendations are based on the nitrogen (N) needs of the plants being grown and the soil test results for phosphorus (P-I) and potassium (K-I); a 50 to 70 index for either is optimum. If the exact fertilizer cannot be found, find the closest match and adjust the rate accordingly. Refer to "Understanding the Soil Report" (last page of this report) for additional explanation and links to helpful information.

### Table: Lime History

<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Crop 1- Shrub</th>
<th>Crop 2-</th>
<th>pH = 6.3</th>
<th>Optimum pH range</th>
<th>Lime Recommendations</th>
<th>N-P-K Fertilizer Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>w15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.0 lb per 1,000 sq ft</td>
<td>5 lbs per 1000 sq ft 21-0-0</td>
</tr>
</tbody>
</table>

* If you cannot find the fertilizer recommended here, choose one from the same Group (A, B, C or D) listed on the last page of this report.

Note: This soil test does not measure nitrogen (N) levels. N fertilizer recommendations are based only on needs of the designated crop.
Soil Remediation

• How much organic matter is in your existing soil?
  – Chocolate cake?
  – Natural soil systems (fungi, bacteria, ants, etc.)
Soil Remediation

- Are you pre-tilling before planting?
  - What is the expected longevity of plants in the landscape?
Construction Challenge

• Slope, erosion, existing utilities
  – Everyone in this room always calls NC 811!!

• Truly design build?
  – Do things always function on site as they did on paper? Site analysis is key

• Visit your vendor and develop a personal contact

• How do you move material onsite?

• Does the customer have clear ideas of what a construction project entails? Rookie clients?
  – Noise, mess, access, timeline
Climatic Fluctuations

• We are dealing with a living, breathing organism.
Climatic Fluctuations

- Excessive heat during an installation or in the years after.

AHS Heat Zone Map
Climatic Fluctuations

• Does your contract include an Acts of God clause? (hurricane Matthew)

• What does your warranty state about fluctuations?
Quick Comparisons

Dream

Reality
Pest Management

• Antagonists are constantly flying, crawling, migrating and feeding. Ex. pine bark beetle, scale, armyworms (sod farm notifications)
  – Can you explain this to your customer in a way that they will pay for your knowledge and services?
• Do you have a yearly expectation calendar or online notification system?
• Plant Disease and Insect Clinic
Plant Antagonist Resources

https://ipm.ces.ncsu.edu/ipm-pest-news/
https://ipm.ces.ncsu.edu/tags/pest-alert+2016/
Pest Management

• Avoid plants that we know have long-term pest problems. Ex. Leylands, laurels, etc.

• What are the most common antagonists throughout the year? Have you ever made a list? Have you ever seen this site?

Pest Mgmt Calendar

Leyland Cypress Pest Management Calendar

**CAUTION** This information was developed for North Carolina and may not apply to other areas.

<table>
<thead>
<tr>
<th>PESTS</th>
<th>*</th>
<th>**</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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</thead>
<tbody>
<tr>
<td>Bagworms</td>
<td>II</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juniper Scale</td>
<td>II</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spruce Spider Mite</td>
<td>III</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>S</td>
<td></td>
<td></td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canker (Larvae)</td>
<td>II</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Degree of importance of pest: I=Important pest, high probability of occurrence; II=Treat as needed; III=Occasional pest, treat when detected.
** Number of applications needed for most effective control. It is usually best to wait 10 to 14 days between applications in cool weather and 7 to 10 days between applications in warm weather.
R=remove and destroy infected plants; S=Spray.
Financial Negotiations

• Designer, Landscape Architect
  – dreams vs. reality

• When do you make the move to estimating/pricing/scheduling software?
  – LMN software vs. experience

• Be careful when giving a customer an on-site estimate
  – Don’t do it, or price it high!
  – Don’t take work at a reduced rate because you priced it on-site too low
Installation vs Maintenance

- Is a maintenance division a good idea? (Hardscape Magazine)
- Profit margin differences?
- Analyze what you hear and read.
- What fits with your company, market and profit goals?
Going forward

How do we make a homeowner’s dream a reality?

• Listen to your client
• Build your business practices on science
• Let your personality shine through your sales process
• Believe in and sell your product
• Improve weak areas within your company
Thanks for listening!

We are open to questions now or in the future.