Georgia Pomegranate Update:
2014

‘White Plantation’ Bland/Slightly Sweet, Soft seed, Yellowish Pink

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Dept., of Horticulture
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Florida Pomegranate Association 3rd Annual Meeting
Oct. 10, 2014
**Punica granatum** L.

- Native Habitat from Iran to the Himalayas in Northern India
- Cultivated since antiquity throughout the Mediterranean Region of Asia, Africa, and Europe.
- *Punica* is the feminized Roman name for Carthage, *Malum punicum*, the ‘Apple of Carthage.’
- Linneaus renamed *granatum*, meaning seedy or grainy
Punica granatum L.

- Pomegranate cultivation known in Persia 3000 BCE
- Phoenicians brought Pomegranate to Tunisia and Egypt by 2000 BCE
- By 100 BCE Pomegranate was cultivated in China
- 800 CE pomegranate was spread throughout the Roman Empire and Iberia
- First evidence in the New World, early 1700’s in Spanish Florida and English Georgia

http://www.silkroadfoundation.net
Punica granatum L.

- The Gods Must Be Crazy
- Arabic – rumman
- Hebrew – rimmon
  - Both mean ‘Fruit of Paradise’
- Greeks – the “fruit of the dead”; provides sustenance to the residents of Hades.
- Symbolizes
  - Love, immortality, fecundity, prosperity

Hades abducting Persephone (Vegetation goddess) by luring her with pomegranate seeds
Punica granatum L.

• Biblical Song of Songs,
  – Sheba ecstatically replies to Solomon’s blandishments: “Let’s us get up early to the vineyards; let us see if the vine flourish, whether the tender grape appear, and the pomegranates bud forth: there will I give thee my love.”
  – Solomon in reply describes Sheba as a garden whose “plants are an orchard of pomegranates” further “As a piece of a pomegranate are thy temples within thy locks.”
  – Sheba say she wants Solomon to drink “the spiced wine of the juice of my pomegranate.”
**Punica granatum L.**

- Fruit Characteristics (Taste, Seed, Aril Color)
  - *Jimmy:* Sweet/Juicy, Soft Seed, Yellowish/Pink/Red
  - *Lester:* Sweet/Sugar Cane, Fairly Soft, Y/P/R
  - *JC:* Slightly Sweet, Fairly Soft, Y/P/R
  - *R6 Al-sinar-nar:* Sweet/Tart, Hard, Y/Orange/R
  - *R8 Salavatski:* Tart, Fairly Soft, Y/P/R
  - *R16 Kara bala miursal:* Sweet, Fairly Soft, Y/Orange/R
Punica granatum L.

- R19 Nititski ranni: Tart, Hard, Red
- R25 Bala Miursal: Sweet/Tart, Slightly Hard, Y/R/G
- R26 Afganski: Sweet, Soft Greenish/Red/Yellow
- R30 Kazake: Sweet/Tart, Hard, Y/Lt Red
- R33 Surh-anor: Slightly Tart, Hard, Y/Lt Green/R
**Punica granatum L.**

- 2013 Harvest Don Wade’s Farm: a day at the fishhouse 9/9/2013
  
  – Accessed:

<table>
<thead>
<tr>
<th>Code</th>
<th>Assession Name</th>
<th>Taste</th>
<th>Seed</th>
<th>Skin Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-6*</td>
<td>Al-sirin-nar</td>
<td>Sweet/Tart</td>
<td>Hard Seed</td>
<td>Yellowish/Orange Red</td>
</tr>
<tr>
<td>R-16*</td>
<td>Kara bala miursal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-19*</td>
<td>Nititski ranni</td>
<td>Tart</td>
<td>Hard Seed</td>
<td>Red</td>
</tr>
<tr>
<td>R-25*</td>
<td>Bala Miursal</td>
<td>Sweet/Tart</td>
<td>Slightly Hard Seed</td>
<td>Yellowish/Red/Green</td>
</tr>
<tr>
<td>R-26*</td>
<td>Afganski</td>
<td>Sweet</td>
<td>Soft Seed</td>
<td>Red</td>
</tr>
<tr>
<td>R-30*</td>
<td>Kazake</td>
<td>Sweet/Tart</td>
<td>Slightly Hard Seed</td>
<td>Yellowish/Red/Green</td>
</tr>
<tr>
<td>R-33*</td>
<td>Surh-anor</td>
<td>Slightly Tart</td>
<td>Hard Seed</td>
<td>Yellowish/Lt Green Red</td>
</tr>
</tbody>
</table>

*Harvested 2013 & 2014
Punica granatum L.: Alma Harvest

• Single Harvest – third leaf
• Minimum: 9” diameter fruit
• Weight calculated on per tree
• Postharvest:
  – Fresh marketable separated from total harvest (lb)
    • Sunscald, damage, decay, blemish
  – Fruit peeled and arils sensory evaluated
    • 11 people tasted fruit
Punica granatum L. Alma Harvest 2013

Fresh and Processed Marketable Fruit Comparison in lbs

Variety

R19  R6   R33  R30  R26  R25  R16

Alma Harvest 2013

Total Wt  Process

0  5  10  15  20  25  30  35  40  45

lbs

Al-sirin-nar
Punica granatum L. Alma Harvest 2013

Variety

% Downgrade

R33 71.7
R16 59.9
R19 46.9
R26 43.6
R6 42.3
R30 40.0
R25 39.4

Al-sirin-nar
Punica granatum L. Alma Harvest 2013

Average Fruit per Tree

2013 Average Weight per Fruit in lbs

Variety

# of Fruit

0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9

Variety

lbs

Al-sirin-nar

Al-sirin-nar
Sensory evaluations of pomegranate varieties

*Rating scales:*
- **Sweetness:** 1 = very sweet, 5 = not sweet;
- **Acidity:** 1 = very acidic, 5 = not acidic;
- **Color:** 1 = white, 5 = dark red;
- **Seed hardness:** 1 = very hard, 5 = very soft.
**Punica granatum L. Alma Harvest 2014**

- Harvest on September 24, 2014 @ Don Wade’s Farm
  - Cultivars harvested
    | # of trees | Leaf |
    |------------|------|
    | Jimmy      | 5    | 6    |
    | Lester     | 5    | 6    |
    | JC         | 5    | 6    |
    | R6 Al-sinar-nar | 5 | 4    |
    | R8 Salavatski | 5 | 4    |
    | R16 Kara bala miursal | 5 | 4    |
    | R19 Nititiski ranni | 5 | 4    |
    | R25 Bala Miursal | 5 | 4    |
    | R26 Afganski | 5 | 4    |
    | R30 Kazake   | 5    | 4    |
    | R33 Surh-anor | 10 | 6&4  |

- **Total Harvest 4946.5 lb**
Punica granatum L. Alma Harvest 2014

Average Fruit /Tree

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Number of Fruit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jimmy</td>
<td>189</td>
</tr>
<tr>
<td>Lester</td>
<td>186</td>
</tr>
<tr>
<td>JC</td>
<td>150</td>
</tr>
<tr>
<td>R33</td>
<td>332</td>
</tr>
<tr>
<td>R 16</td>
<td>12</td>
</tr>
<tr>
<td>R8</td>
<td>203</td>
</tr>
<tr>
<td>R26</td>
<td>58</td>
</tr>
<tr>
<td>R25</td>
<td>86</td>
</tr>
<tr>
<td>R6</td>
<td>77</td>
</tr>
<tr>
<td>R19</td>
<td>41</td>
</tr>
<tr>
<td>R30</td>
<td>47</td>
</tr>
</tbody>
</table>

Al-sirin-nar
Punica granatum L. Alma Harvest 2014

Average Fruit Weight

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Avg. Fruit Weight (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jimmy</td>
<td>0.6</td>
</tr>
<tr>
<td>Lester</td>
<td>0.6</td>
</tr>
<tr>
<td>JC</td>
<td>0.6</td>
</tr>
<tr>
<td>R33</td>
<td>0.4</td>
</tr>
<tr>
<td>R16</td>
<td>1.5</td>
</tr>
<tr>
<td>R8</td>
<td>0.7</td>
</tr>
<tr>
<td>R26</td>
<td>0.7</td>
</tr>
<tr>
<td>R25</td>
<td>0.6</td>
</tr>
<tr>
<td>R6</td>
<td>1.0</td>
</tr>
<tr>
<td>R19</td>
<td>1.0</td>
</tr>
<tr>
<td>R30</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Al-sirin-nar
Punica granatum L. Alma Harvest 2014

Average Fruit Weight/Tree

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Average Fruit Weight (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jimmy</td>
<td>108.6</td>
</tr>
<tr>
<td>Lester</td>
<td>112.9</td>
</tr>
<tr>
<td>JC</td>
<td>87.4</td>
</tr>
<tr>
<td>R33</td>
<td>134.1</td>
</tr>
<tr>
<td>R16</td>
<td>18.2</td>
</tr>
<tr>
<td>R8</td>
<td>150.5</td>
</tr>
<tr>
<td>R26</td>
<td>41.8</td>
</tr>
<tr>
<td>R25</td>
<td>55.0</td>
</tr>
<tr>
<td>R6</td>
<td>73.5</td>
</tr>
<tr>
<td>R19</td>
<td>41.1</td>
</tr>
<tr>
<td>R30</td>
<td>32.2</td>
</tr>
</tbody>
</table>
Punica granatum L. cv. Lester
Punica granatum L. cv. JC
Punica granatum L. cv. Jimmy
Punica granatum L. cv. R 26 Afganski
Punica granatum L. cv. R 25 Bala Miursal
Punica granatum L. cv. R 6 Al-sinar-nar
Punica granatum L. cv. R 16 Kara bala miursal
Punica granatum L. cv. R 30 Kazake
Punica granatum L. cv. R 33 Surh-anor
Punica granatum L.
**Punica granatum** L.

Black Twig Borer

*Xylosandrus compactus* (Eichhoff, 1875)

http://www.insectimages.org
Punica granatumum L.

European shot-hole borer
*Xyleborus dispar* (Fabricius, 1792)
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**Punica granatum L.**

**Damage:**
- Early spring females bore into, generally, young pencil sized limbs and bore galleries to lay eggs
- Males are wingless and spend their entire lives inside woody material
- Females need not mate to lay eggs
- Once eggs are layed, the female will inoculate the gallery with fungus for the young to feed upon

**Control:**
- Pyrethroids can control beetles if in contact with the product
- However, if in the plant forget it!
- Best practice is to prune out and destroy infested material (minimum of 4” from the hole)
  - **BURN THE PRUNINGS!**
Thank You

• Acknowledgements
  – Don Wade and the Georgia Pomegranate Association
  – Joe Peavy, Wade Nursery, Harvest 2014
  – Dr. Juan Carlos Diaz-Perez
  – Dr. Jim Dutcher, Dept. of Entomology UGA Tifton
  – Participants of the 2013 Georgia Pomegranate Meeting