Realities of Pecan Production in SC

By Mark Arena
Pecan is among the few native plant species of N. America to be developed into a sizeable agricultural crop. Others – black walnut, berries, grapes, etc…
Pecan

- Pecan = “a nut too hard to crack by hand”
  - Algonquians Indians
- President Washington referred to them as “Mississippi Nut”
- Webster’s - pi- 'kän, 'pe-,kan
Found along sandy-loam river bottom areas / humans and animals extended their range

Assortment of Nuts

- Pecans
- Chestnuts (chinkapin) \( (Fagaceae) \)
  - American (Chestnut blight)
  - Chinese
- Beech Nut \( (Fag.) \)
- Acorns (chinkapin)
- Walnuts Black and English
- Peanuts*
- Pine Nuts (Pinyon)
- Hazelnuts (Filbert)
- Almonds
- Pistachios
SEGUIS
HOME OF THE WORLD'S
LARGEST PECAN

THE WORLDS LARGEST PECAN
Brunswick, Missouri
Soils and its Reality

- Drainage is paramount
- Depth roots can grow to will influence production
Growers frequently experience growth problems with young trees and far too many mature trees struggle to produce a crop because of poor drainage.

Good soil aeration is essential for root health, mineral absorption and water uptake.
Symptoms

- Less than optimum growth and yield
- Pale-green leaves similar to N shortage
- Zn deficiency issues such as short internodes, rosette and terminal die-back
Drainage Test and the Reality

- 1 foot – approximately 500lbs /acre
- 2 ft – approximately 700-750lbs /A
- 3 ft – approximately 1,200lbs /A
- 4 ft – approximately 2,000lbs/A
  - if everything else in good!
Potential for 1,200 lbs per A

P 700-750

P 500 or less

Figure 5.—Effect of soil drainage on root development.
Disease Pressure and its Reality!

- There are approximately 7 potentially threatening diseases
- Plus 9 minor foliar diseases that may infect the tree (foliage and nut)
- # 1 disease problem is Pecan Scab!
Pecan Scab

- Resistant cultivars would be the most economical and practical control
- Since 1927 breeders have yet to unveil a completely resistant cultivar!
- Currently, the most practiced disease control measure is the application of preventative fungicides
- Fungicides are used from bud-break to shell hardening
Realities of Water

- Mature trees need water at 5 critical periods:
  - Initial spring growth
  - Nut sizing
  - Water stage
  - Kernel fill
  - Shuck split

- a certain amount of water is needed from spring until harvest for top quality nuts....(best market price)
Realities of Water

- Adequate water
  - May & June - is necessary for nuts to develop to a satisfactory size (quality)
  - June & July - prevents premature nut drop (loss of quantity)
  - August & September - allows for full development of the kernel (quality)
  - October – shuck splits, prevent stick tights (input cost/profit)
Realities of Water

- A well-accepted value for the amount of required water is 55 acre inches per year
- $55 \text{ AIPY} \times 27154 \text{ GPAI} = 1,493,470 \text{ GPA/yr}$
- $1,493,470 \text{ GPA/225 days} = 6,638 \text{ GPA per day}$
- $6,638 / 17 \text{ trees per A} = 390 \text{ G per tree, per day}$
- Sandy soils would double or even triple this amount!
Realities of Water

- Rainfall is rarely distributed appropriately through the growing season to meet the tree’s needs!
Realities of Water

- Dryland production – limited success (~ 3 - 4 yrs)
- Makes for an very unpredictable income source
- Quality will limit market and value
Organic/Natural Production and its Realities

- A challenge because of Pecan Scab and SC weather
- Favorable conditions happen ever 3-5 years
- The future is looking good
  - Several products in-the-fold
Pecans

- Currently is considered a profitable business from NC to AZ
  - Approximately 16 states in production
  - Seeing a push for production in more arid regions of the USA
    - Challenge is quality and quantity of ground water!
  - For most SC & NC growers it serves as a supplemental income
Realities of Pecan Production in SC

2012
- GA - 96M lbs
- NM - 65M
- TX – 48 M
- AZ – 20M
- LA, OK – 5M
- CA 4.3M
- AL 3.4M
- MS 2.0M
- SC, AR 1.5M
- FLA 1.1M

2013
- GA 83M (-13%)
- NM 72M (+10%)
- AZ 22.5M (+10%)
- SC 200K (-86%)
- FLA 1.5K (-86%)

Weather impacts supply of pecans!
Almonds, pistachio, cashews and walnuts still out sell pecans

- GA
- SC
Future

- Currently, the international market is growing
  - which at the moment is being dominated by the American growers
- However, so are production efforts in S. Africa, Israel, Australia, Mexico, S. America and China
- Question – how will this impact future markets and price?
  - Econ 101 ~ Law of Supply and Demand
Future

Increase Demand

- Health benefits
- New markets

Decrease Demand

- Food safety
- Price
- Substitutions
Biggest ever fail on Millionaire Hot Seat Australia

What is a ‘pecan’?

A: Root vegetable  B: Type of nut
C: Cut of beef    D: Tropical bird