Using Sugarcane as a Windbreak
Les Baucum - Multi County Extension Agent II
Sugarcane, Forage Crops
Hendry County Cooperative Extension Office
Commercial Sugarcane Production

- Sugarcane is vegetatively propagated
Commercial Sugarcane Production

- Field is furrowed 4-6” deep

Furrowing (making rows)

Fertilizing (before planting)

- Banding reduces fertilizer use
Commercial Sugarcane Production

Cane is then laid in the furrow.

- Can be “Hand Planted” or “Machine Planted”
Sugarcane stalks are cut into “billets” that are about 10 to 18 inches long by a mechanical harvester.

These Billets are loaded into field wagons.
Machine Planting Sugarcane

- Loading a mechanical planter with seed cane billets

Machine planting requires more seed cane, up to 8-10 tons of seed cane to plant 1 acre.
Hand Planting Sugarcane

- Whole stalk sugarcane is cut and piled for seed
- Cane piles are loaded onto wagons using a grab loader
Hand Planting Sugarcane

- An 8-man crew plants about 40 acres per day

- Hand planting takes about 4 tons of seed cane to plant 1 acre
Covering Sugarcane after Planting
After planting, the sugarcane crop grows steadily for 12 to 15 months before harvesting.

- **Planting season:**
  - Sep thru Dec

- **Harvest season:**
  - Oct thru mid-Apr
Can we grow sugarcane in our part of the state?
Can sugarcane be an effective windbreak?
Can sugarcane be an effective windbreak?

Vegetable Growers in Southwest Florida have been using sugarcane as windbreaks in their vegetable growing operations for several years.
The primary reason vegetable growers use windbreaks is to decrease damage from "saltation" (surface movement or "bouncing" of intermediate sized soil particles along the soils surface).

Other benefits may include a decreased incidence of wind blown pathogens to susceptible crops.
Can sugarcane be used as an effective windbreak or as part of an effective windbreak system to help reduce the incidence of citrus canker in our commercial groves?
Sugarcane as a Windbreak in Citrus?

Possible situations where sugarcane might be useful in a windbreak system:

1. New Plantings without an established windbreak
Possible situations where sugarcane might be useful in a windbreak system:

2. As part of a two-tier windbreak system
Pros and Cons

**PROS:**
- Fast Growing
- Dense Stands
- Ratoons Back
- Economics
- Secondary Uses

**CONS:**
- Start-up Cost
- Maintenance Cost
- Space
- Limited Varieties
- Availability of seed cane
- We don’t know if it will be effective??
PROS

- Sugarcane is fast growing (up to 1 inch per day in its “Grand Growth Period”)
- Sugarcane produces very dense stands
Pros

- Sugarcane is a ratoon crop:
  - After harvest, the plant re-grows from the stubble and makes a new crop
  - Under ideal conditions this process can produce a number of annual crops before re-planting is required
Pros

- **Economics**
  1. After an initial start-up cost, sugarcane should be fairly economical to maintain

- **Possible Secondary Uses**
  1. Cane Syrup
  2. Cattle Feed
  3. Road-side stands
  4. ??
Cons

- **Start up costs**
  - **Seed Cane** - $40.00/ton
  - **Planting Rate** – 4 tons/acre (double lap; rows on 5’ centers)

\[= 1.65 \text{ miles of row}\]

- **Planting Cost**
  - **Current “Contractor” rate** is $135/acre

\[\text{Total cost of Planting 1 acre} =\]
\[
4 \text{ tons seed cane } @ \$40/\text{ton} + \]
\[
\text{Cost of planting } @ \$135/\text{acre} + \]
\[
\text{Fertilizer + Pesticides} = \sim \]
\[
\$350/\text{acre or 1.65 miles of row}\]
CONS

Can we reduce these start up costs?
- Plant propagation plots
- Buy enough seed to plant a one acre plot and use the “seed” off of this crop to plant windbreaks the following year. Should be enough to plant 6-8 acres.

- Plant “single lap” instead of “double lap”
CONS

- Maintenance Cost
  1. Fertilizer
  2. Weed Control
  3. Mowing/Harvesting
Cons

- Space – When the main objective is to grow as many lb. Solids to the acre as possible there is not much room left to plant sugarcane.

**Option 1:**

In young trees you might plant sugarcane between designated rows to act as a temporary windbreak.

**Option 2:**

Plant on the very edge of existing ditch banks.
Cons

Option 3:

- Plant along the edge of existing windbreaks to serve as a two tiered windbreak.
- Would need to get close enough to existing permanent windbreak so as not to be in the way.
- Would probably be easier to establish on newly planted windbreaks than established windbreaks.
Cons

- Commercial varieties are mostly adapted to South Florida soils and growing conditions.

**Options:**

- **Commercial Varieties**
  - CP78-1628
  - CP89-2143
Varieties

- “Syrup Varieties”
  - POJ-2878 Ribbon Cane

- Other Options
  - Breeding programs in LA have begun selecting for varieties based on their potential to produce biomass. (L79-1002, Ho00-0961, US01-0012)
  - Georgia Yellow Gal
Other Potential Problems

- Skippy Stands
- Lodging
Other Things To Know

How far apart should I plant rows of sugarcane for windbreak purposes?

- Vegetable Growers normally plant rows ~ 100-110’ apart
- Experts say we get windbreak protection for a distance of 10 X height

- So how tall will my sugarcane be? Best estimate ~ 6-8’ (commercial sugarcane can reach heights of 15’)
- $8 \times 10 = 80’$
Other Things To Know

When I harvest/mow my sugarcane, will I lose my windbreak?

- Yes, temporarily

  ✓ If using in small trees as a primary windbreak you might consider harvesting/mowing on a split schedule (every other row) on a February/March & July/August schedule.

  ✓ If part of a two-tier system probably harvest in December.
Other Things To Know

How often will I have to replant?
✓ Unless you pull up the “stool” or root of the plant when you are harvesting/mowing you will not have to replant.

Will I have to Irrigate?
✓ Yes
Getting Started

How will I make the furrows to plant my cane in?

✓ Mount a single furrowing plow on a tool bar to make single furrows ~ 6 inches deep (plow will have to be mounted on the end of the tool bar if you want to plant right on the edge of your ditches.

How Will I cover my plant cane?

✓ Mount a set of disks on the tool bar to throw the soil back over the seed pieces.

Will I need to use a soil insecticide at planting?

✓ Probably not
Getting Started

Where can I find sugarcane to plant?

✓ Contact your local County Extension Agent

OR

Les Baucum
Extension Agent II / Multi-County, Sugarcane
Hendry County Extension Office
(863) 674-4092

Will hurricanes destroy my sugarcane windbreak?
OTHER QUESTIONS?