# **Blackberries:** Site Selection,

Preparation & Management





David W. Lockwood Plant Sciences University of Tennessee

# Live where you iarm don't farm where you live

## **Site Selection**

•Possibly the <u>most important decision</u> a grower can make

•Every aspect of crop development and marketing will be influenced by the site

## **Site Selection Considerations**

- Market distance, accessibility, quality of roads, parking
- Full sun
- Elevation in regards to surrounding area
- Aspect of slope
- Degree of slope
- Soils:
  - Drainage internal & surface
  - Potential rooting depth
  - pH
  - Fertility
- Water availability & quality
- Wildlife issues

# **Market Considerations**



#### Elevation in Regards to the Surrounding Land

- Cold air settles to the lowest point
- Potential effect on radiation frost & disease







Increased potential for winter injury Plants start growth earlier - increased potential for frost Soils tend to be drier, warmer and thinner South



Avoid slopes over 15%

# A Good Soil Has:

- Adequate rooting depth
- Good internal and surface water drainage
- Proper pH and fertility for the crop

## Water: quantity & quality



Larger berries Increased yield Extended harvest Better primocane growth A Critical Year In Fruit Production Is The One Prior To Planting



### **Caneberry Production Timeline** (floricane-bearing)

-1 year	+1 year	+2 years	+3 years
Preplant Site Preparation	Floricane growth	Partial crop, Floricanes & Primocanes	Full crop
Planting			

#### Site Development

- Start well in advance of planting
- Soil testing & amendments
  - The only opportunity to address subsoil pH & nutrient needs
- Address water drainage issues
- Remove obstacles to good air drainage
- Removal of noxious weeds
- Establish desired orchard floor cover



#### **Preplant Soil Testing**

#### •What to Soil Test For:

- pH affects availability of nutrients
- Phosphorus only opportunity to adjust P levels in soils
- Potassium can impact uptake of certain nutrients (Ca, Mg, N)
- Calcium calcitic limestone?
- Magnesium dolomitic limestone?
- Organic Matter can help to determine postplant nitrogen fertilization rates

#### Effects of Soil pH on Nutrient Availability



pH < 6.0 starts to limit macronutrient availability

pH > 7.0 starts to limit micronutrient availability (except for Mo)

#### Soil pH Effect on Nutrient Uptake



4.5 5.0 5.5 6.0 6.5 7.0 pH



```
Liming Soils
Rate for upper 8"
+ = Amt. to
apply
Rate for 8 – 16" depth
```

Disk or rototill (mixes lime with soil in upper 4 - 6'')

Plow to put amended soil at the bottom of the furrow

(for high lime rates, apply ~ 2/3 of total & incorporate, apply remaining amount & disk into topsoil)

## **Preplant Applications**

#### - Phosphorus

Sum of the topsoil and the subsoil requirement

=

Amount to use in upper 16 inches of soil

(thoroughly disk into surface soil & plow to get it as deep as possible)

Where large amounts of lime are needed, apply ½ to ⅔ of total amount as outlined above & thoroughly work remainder into topsoil after plowing

#### Preplant Applications -Potassium

(desired level topsoil – actual topsoil level) + (desired level subsoil – actual level subsoil) = Ib./acre K2O per 16-inch depth

# **Eliminate Noxious Weeds**

- Few herbicides labeled for young plantings
- No damage from misapplication
- Increased crop survival and growth
- \*be sure to use herbicides that pose no "carryover" threat

# Improve Air Drainage

- Remove barriers to good air flow out of the planting
  - Hedgerows, fencerows, etc. below plantings
- Plant far enough upslope of woodlands to stay out of a frost pocket

## Water Drainage

- Eliminate wet areas in fields
  - -Ditching
  - -Tile drainage

## **Floor Management**



- Sod strip serves as:
  - Support for equipment
  - Deceleration & diffusion strip for runoff water on sloping land
  - Better working conditions

## Laying out the planting

- North/south row orientation give the best sunlight exposure of leaves & fruits
- On sloping land, orient rows across the slope
  - Less erosion
- Maximum row length ~300 ft.
  - Leaving openings in rows allows for better air drainage
- Order plants from reputable nurseries
  - Tissue cultured
  - Virus indexed

## Southern Region Small Fruits Consortium www.smallfruits.org

- Southeast Regional Caneberries Integrated Management Guide
- Southeast Regional Caneberry Production Guide
- Blackberry IPM Presentations