

Maintaining Annuals  
To

**Thrive!**

# Plant Fresh!

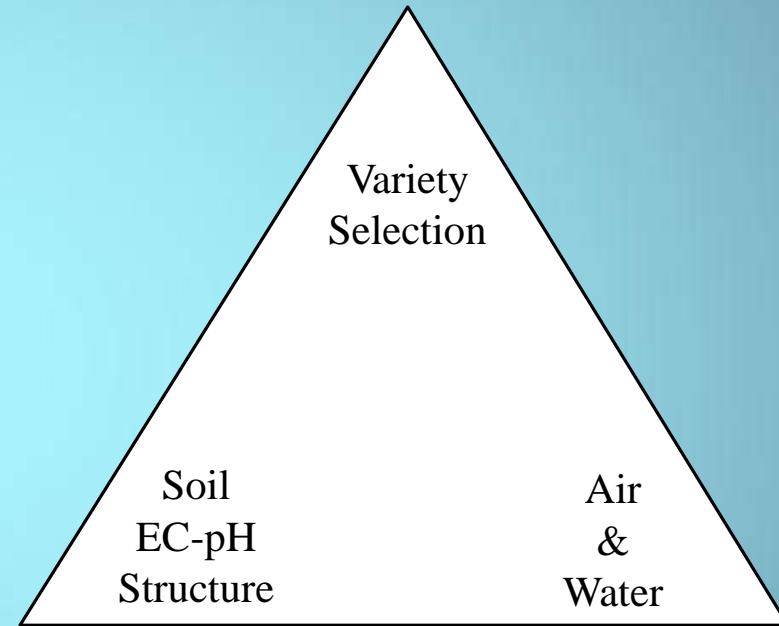


# Soil

Healthy plants *thrive* in healthy soil.

Soil prep = ↑ Plant health  
↓ Water  
↓ Disease  
↓ Chemicals

**Better bed preparation**  
**Reduces maintenance**



# What is Soil?

## Structure

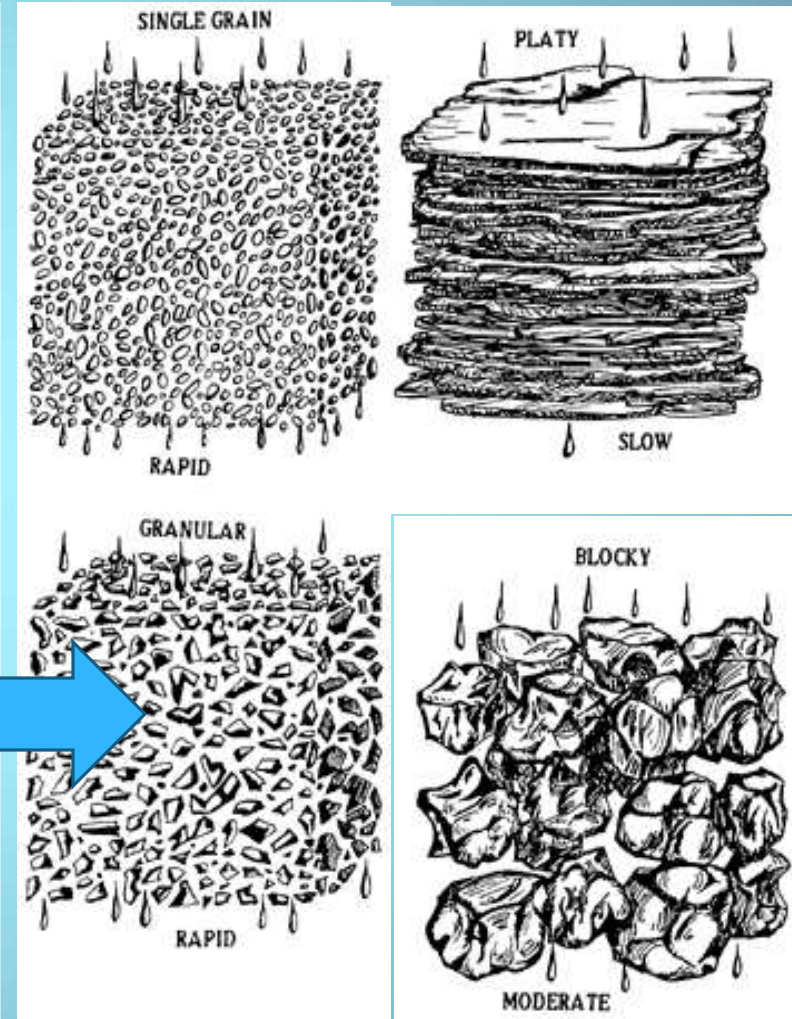
Holds Water & Nutrients

## Organic Matter

Large & Small pores

Better air porosity

More granular



# Soil

***Soil pH = how tight nutrients hold to soil***

*pH “Range”*

*<6.0 Nutrients leached*

*>7.5 Nutrients bound tight*

*You’ve got a problem...*

*Low pH = Small leaves, marginal chlorosis*

*High pH = Young leaf chlorosis, stunted  
plants*

# High pH tolerant annuals

'VIMP's = Vinca, Impatiens, Marigold, Pentas

The *Not 'Fussies'*

Begonias, Lantana, Zinnia,

# Low pH loving annuals

'P's' = Pansy, Petunia, Primula

# Soil

## ***Soil E.C. = Salts in the soil***

*What can increase soil EC (salts)?*

- *High EC irrigation water*
- *De-icing salt run-off*
- *Excess fertilization*

*You've got a problem...*

*Low EC = small, weak plants*

*High EC = marginal necrosis, stunted plants*

*Newly planted, "soft" but growing crops more of a problem*

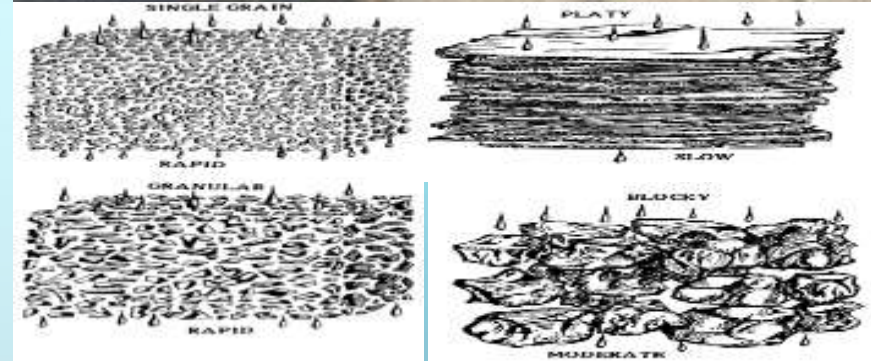
# Soil Structure

## DON'T Stomp it!

- Small beds
  - ✓ Work from perimeter
  - ✓ Avoid “knee blight”
  - ✓ Cultivate as you go
- Large beds
  - ✓ Cultivate center & plant
  - ✓ Cultivate edge & plant

OR

  - ✓ Work from one side to the other.





# Water

- *50% of Landscape water is wasted*
- *More plants die due to overwatering than to under watering*
- *Reduce water as plants fill in*
- *When leaves touch, they've had enough!*



# Water

## To check “perc” rate

1. Dig hole ~6” in diameter ~5” deep
2. Fill with water, let drain
3. Refill with water and measure drop in water depth every 30-60 minutes
4. Calculate perc as ‘inches/hour’
5. 3” per hour good
  - Less than 1” per hour = Aquascaping!

# Fertilization

DO! Soil test to determine optimum fertilizer rate  
(pH & EC)

- ✓ **High EC with poor prior season growth – Full test**
  - ❖ **Sodium, Chlorides, Sulfates = high EC**
- ✓ **Low EC ⇒ need more to bring up to baseline**

# Fertilization

## ➤ How much N-P-K?

- ✓ N (nitrogen) ⇨ 'Gas' to grow
- ✓ P (phosphorus) ⇨ Stem stretch, roots(?), flowers(?)
- ✓ K (potassium) ⇨ Tone, 'hardness'

## ➤ Granular application of slow release (12-12-12)

- ✓ Need water to activate
- ✓ Liquid application of 20-20-20
- ✓ Releases faster with heat

# Planting

- Bed & pot moisture should be similar

Ideal: Bed moisture = Pot moisture

- **Floater** ⇨ Pot dry & Bed wet

Watering-in causes pots to “float” to surface

- ✓ Plant floats up above soil surface, too high
- ✓ Plant wicks and dries out

- **Sinker** ⇨ Pot wet & Bed dry

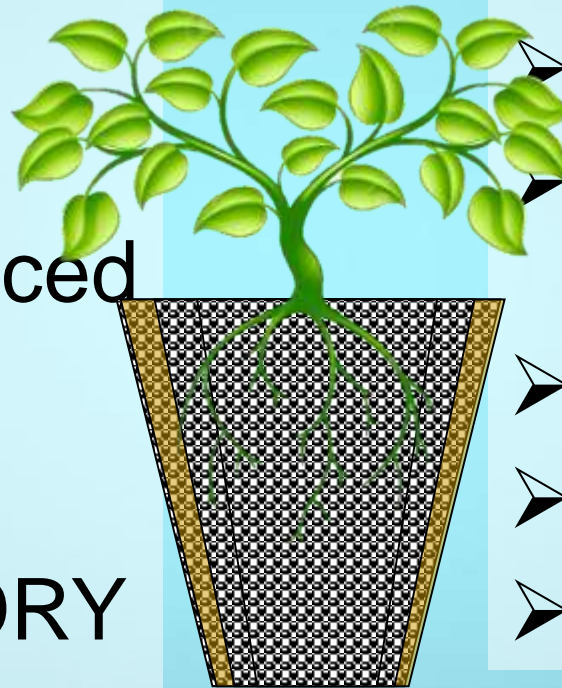
✓ Watering-in causes pot to “sink”

- ✓ Root rot when plant is below soil line.

# Greenhouse Soil vs. Landscape Soil

## Potting soil

- Organic soil
- Maximum porosity
- Nutrient balanced
- pH balanced
- High CEC
- Designed to DRY



## Field Soil

- Mineral soil
- Compacted
- Nutrient imbalance
- pH extremes
- Low CEC
- Holds water

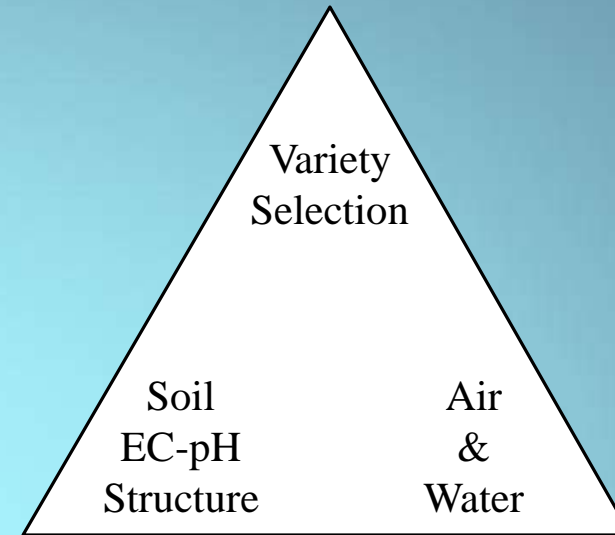
Different drying rates

# Planting

- Depth matters!
- You would never think of planting a B&B tree or shrub too high, or low...

Why would you do it with a bedding plant?

1. **Plant “fresh”**
2. **Soil**
  - ✓ Soil prep saves labor
  - ✓ Know your pH & EC levels
  - ✓ Compaction
3. **Water**
  - ✓ Know your Perc!
  - ✓ Match the moisture
4. **Fertilization**
  - ✓ Know your EC
5. **Plant for success**
  - ✓ Right depth





# Landscape Resources



The screenshot shows the Ball website homepage. At the top, there is a dark blue navigation bar with the Ball logo on the left, the text "Landscape Products for Professionals" in the center, and a search bar with a "Submit" button on the right. Below the navigation bar is a horizontal menu with links for "PRODUCTS", "PHOTOS", "THRIVE", "RESOURCES", "CATALOGS", "PRESENTATIONS", "BLOG", and "FIND A SUPPLIER". The main content area features a large image of a hummingbird in flight over purple flowers. Overlaid on this image is a dark grey box with the text "Thrive" in large white font, "Read the latest Thrive newsletter" in smaller white font, and an orange "Read Now" button. Below this, a white box with a pink border contains the text: "Newly updated! Mobile-Friendly Check out Thrive monthly newsletter Links to all Ball Catalogs on-line!". At the bottom of the page, there is a dark blue footer with three columns of links. The first column, "PLANT PARTNERS", lists "BallSeed", "BallColorLink", "BallFloraPlant", and "DarwinPerennials". The second column lists "KieftSeed", "PanAmericanSeed", and "selecta star". The third column, "CUSTOMER CARE", lists "Contact Us" and "Terms & Conditions". On the right side of the footer, it says "Landscape Products for Professionals" and the Ball logo. At the very bottom right, there is a small copyright notice: "© 2012 Ball Horticultural Company. All rights reserved."

Thank You!

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