Asexual Plant Propagation

Presented by UCCE Master Gardeners

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Welcome & Intros

- Welcome!
- Other MGs
- We are the UCCE MGs of EDC, volunteers trained by the University of California
- MG Goal: Educate our community’s home gardeners using research-based information
- Sign-in and evaluation form
- Publications table (MG Handbook Chapt 5)
- Break/snacks/restrooms
- Donations
Asexual Propagation

- The production of new plants from the stems, leaves, or roots of a parent plant.
- No seeds needed
- Respect patents!
Benefits of Asexual Propagation

- Speed, maturity
- Works when seeds are hard to germinate
- Easy
- Not expensive
Today’s methods

• Cuttings
• Layering
• Division
What is a Node?
Cuttings

- Vegetative plant part
  - Stem/leaf/root
- Severed from parent plant
- Induced to regenerate itself
Cuttings

• Vigorous plants
• Disease, pest-free
• Labels
What do I need?

- Hormones (or not)
  - PPE
- Environment
- Medium
Rooting Hormones

- Material that promotes the development of roots
- Applied to the bases of the cuttings
- Powders or solutions
- Follow label directions
Root-Inducing Environment

- High humidity to reduce water loss
- Indirect sunlight
- Bottom heat
Types of Growing Medium

- Light, fine and clean
- Well drained
- Good moisture retention
- Slightly acidic
Stem Cuttings: When?

- Different times of the year
- Stem maturity
- Carbohydrate storage
Softwood Cuttings

Shrubs, Perennials and Tender Perennials

Fuchsias,
Pelargonium
Salvias,
Penstemons
Lavenders
Softwood Stem Selection

- Soft, succulent new growth
- Flexible
- Mature enough to break if bent sharply
- Can be bruised easily w/fingernail
Softwood Stem Cuttings

- Cut just below a node
- Remove lower leaves
- Dip bottom in rooting hormone
- Make hole, insert deep enough to support itself
- At least 1 node below
- Gather and use on same day
- Can use lateral shoots
- Should root in 2 to 5 weeks
Semi-Hardwood Cuttings

• Broadleaf Evergreens
  • Mid-July to early Sept
  • Photinia
  • Holly
  • Pittosporum
  • Camellia
Semi-Hardwood Selection

• When growth flush is complete, wood is firm
• Remove soft growth
• Use rooting hormone
• Takes 4-6 weeks
• Misting?
• Bottom heat?
Today’s Plant Material

Penstemon stricta
Hardwood

- Roses
- Buddleia - butterfly bush
- Cornus - dogwood
- Salix - willow
- Forsythia
Hardwood Cuttings

• 6-20” long, ¼” To ½” diameter depending on species
• Don’t use tip – not enough food
Hardwood Cuttings

- One of easiest
- October thru late winter
- From last seasons growth
- Collect after leaves drop or immediately before bud break
Leaf Cuttings

- African violet
- Rex Begonia
- Sanseveria
- Jade plant
Leaf Cuttings

- Insert vertically in medium
- High humidity
- Rooting hormone
- Leaves w/split veins (rex begonia)
  - New plant forms where veins were cut
Layering

Parent plant

Peg

Shoot held below soil

New plant forms

Roots develop
What is Layering?

• Roots are formed on a stem that is still attached to the parent plant
• Rooted stem is severed
• High success rate
Simple Layering

- Some plants layer themselves naturally
- Or you can manipulate the stem
Compound Layering

- Plants w/flexible stems
- Same as simple layering except stem is alternately covered & exposed along it’s length
- Include at least 1 bud in each exposed section
- Several new plants can grow from a single stem
Specialized Stems

- **Stolons & Runners**
  - a stem that grows horizontally above the ground
- **Rhizomes**
  - horizontal elongated below ground stems
Iris rhizome

• Dig when dormant – July - August
• Break or cut off new growth
• Discard old rhizome and blossom stem
• (Dust cut with fungicide – or not!) Allow to heal over in shady place for at least a day
• Replant with top of rhizome on surface of the soil
• Water well to settle
Today’s Plant Material
Today’s Plant Material

Alstroemeria
Today’s Plant Material

Alstroemeria rhizomes
Division

• Helps keep plants healthy and strong
• Is a good way to control growth
Division

- Herbaceous perennials
- When they're dormant, in late autumn or early spring
- Early spring bloomers – after flowering
- Always have more root than shoot
- Keep moist and protected from wind and hot sun
Division

- Dig clump
- Shake free of soil
- Gently tease or cut roots apart
- Take care not to damage roots
Division

• Each division should have vigorous new growth
• Discard woody centers
Questions
References

• California Master Gardener Handbook
  – Dennis R. Pittenger, Editor
• Sunset Western Garden Book
  – Kathleen Norris Brenzel, Editor
• Propagation Handbook
  – Geoff Bryant
• American Horticulture Society Plant Propagation
  – Alan Toogood, Editor-in-Chief
• Making More Plants
  – Ken Druse
• Virginia Tech
• University of Maine Cooperative Extension
Thank You!