

Digging Deeper: "Growing Strawberries" will start momentarily ...

Upcoming Master Gardener *Green Thumb* Presentations

- **Thursday, June 24 (12-1 pm)** "All About Galls"
- **Thursday, July 8 (12-1 pm)** "How We Garden: Body Saving Advice from a Physical Therapist"

To find links to presentations, go to <https://extension.wsu.edu/clallam/> and click on "Master Gardener Zoom Presentation Links"

To view recordings of past Master Gardener presentations, go to <https://extension.wsu.edu/clallam/mg/resources/local-articles/>

Today, please type your questions for the speaker into the Zoom chat box.



Clallam County
**Master Gardener
Program**
WASHINGTON STATE UNIVERSITY
EXTENSION

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Growing Strawberries

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Green
Clallam County
Master Gardener



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Learning Objectives

By the end of this presentation, you will be able to:

- 1) Select varieties of strawberries appropriate for your microclimate and desired uses.
- 2) Plant strawberries so they are most productive.
- 3) Provide the care strawberries need to be happy and healthy.
- 4) Recognize when a strawberry patch is no longer productive and a new patch should be started.

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General Types of Strawberries

- **June-bearers** – crop in June and July
- Everbearers – crop in early summer and smaller crop in fall
- Day-neutrals – crop throughout summer
 - Biggest and best tasting berries!
 - Form lots of runners (daughter plants)
 - Produce well for more years

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Variety Selection

Select varieties that

- Grow well in our climate.
- Demonstrate disease resistance.
- Meet your personal needs.
- Extend the fresh berry season.

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Recommended Varieties

- June-bearers
 - Benton
 - Hood
 - Rainier
 - Puget Reliance
 - Puget Summer
 - Sweet Sunrise
 - Shuksan
 - Tillamook
- Everbearers
 - Fort Laramie
 - Quinault
- Day-neutrals
 - Albion
 - Seascape
 - Tribute
 - Tristar

Reference: OSU. Strawberry Cultivars for Western Oregon and Washington (EC1618)

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Buying Strawberry Plants

- ALWAYS: Start with healthy, certified disease-free plants from a reputable source.
- Bare-root vs. individual potted plants

Bare-root



\$17-\$25 for 25 plants

Individual potted plants



\$3.50 for one plant

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Site Selection

- Full sun
- Areas with good air drainage and circulation
- Well-drained soil with high organic matter content
- pH 5.6 - 6.5

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Site Selection (cont'd)

- Do not plant where members of nightshade family have been planted.
- Do not plant into recently plowed grass sod areas due to white grubs.
- Remove all weeds prior to planting.

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Plant Placement

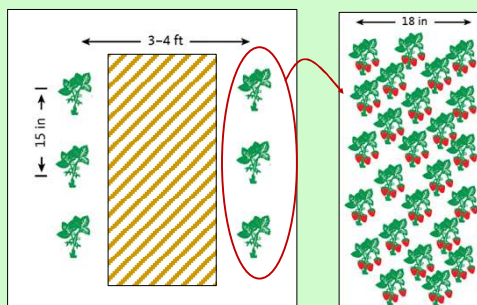
Plant to allow for future growth:

- June-bearers (lots of runners) → plant further apart with wider aisles, let runners fill in rows
- Everbearers and day-neutrals (few runners) → can plant closer together, remove all runners



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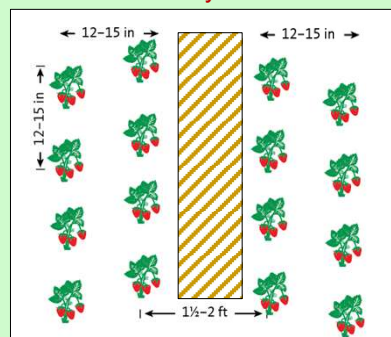
June Bearers "Matted Row"



Annette Spithoven, Noun Project

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Everbearers and Day-neutrals "Hill System"

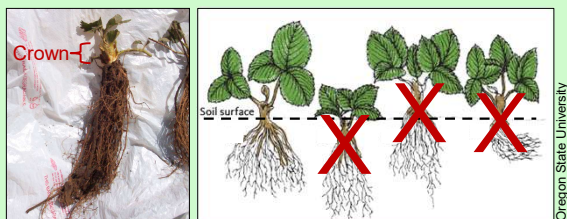


Annette Spithoven, Noun Project

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Planting Bare-root Strawberries

- Dig hole deep and wide enough for roots.
- Set plant so soil surface is at mid-crown of plant.
- Keep roots moist while planting.



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Mulch

- Place mulch between and under plants
 - Minimizes weeds
 - Conserves moisture
 - Keeps fruit off ground
- Straw/pine needles vs. black plastic



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First Year Care

- Fertilize at 2, 6, and 8 weeks after planting.
- Provide 1-2 inches water each week.
- Hand weed.
- Remove blossoms for first 6 weeks (everbearers/day-neutrals).
- Remove all runners from day-neutrals and everbearers.
- Allow selected runners on June-bearers.

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Runners and Daughter Plants

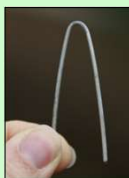
- Horizontal stems that produce daughter plants
- Daughter plants supported by mother plant until they root
- Can increase productivity of berry patch but have drawbacks



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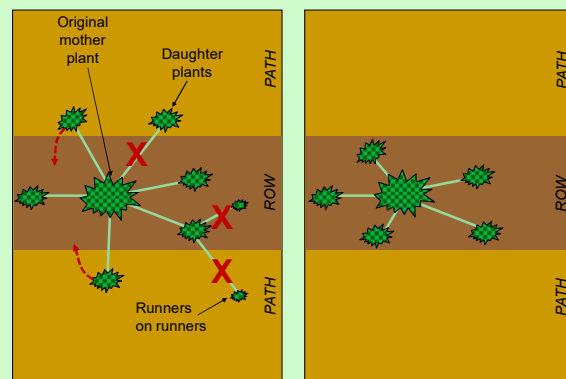
Runner Management

- Remove all runners from everbearers and day-neutrals.
- For June-bearing plants:
 - Move runners into row and space out.
 - Pin down runners to increase soil contact.
 - If plants exceed 5-6 plants per square foot, remove subsequent runners.
 - Remove runners on runners.
 - Remove all runners formed after September 1.



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Runner Management (cont'd)



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Care in Subsequent Years

- Provide 1-2 inches water/week.
- Hand weed.
- Manage runners.
- Fertilize based on growth and color of leaves:
 - June-bearers after harvest.
 - Others split between April, May, and June.



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Harvest

- When ripe
 - Size depends on many factors
 - Fully colored (no white or green patches)
 - Plump, slightly soft
- Storage
 - Refrigerator (with caps, unwashed) for a couple of days
 - Freezer (after capping, washing, draining) for up to a year



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Strawberry care does not end with the harvest ...

but are there questions on what we've covered so far?

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Renovation (June-bearing only)

A week or so after harvest:

- 1) Cut foliage to 2-3 inches above crown. Remove all plant debris.
- 2) Narrow rows to 10-12 in.
- 3) Thin out old, weak, or crowded plants.
- 4) Mound up soil if roots exposed.
- 5) Apply balanced fertilizer.
- 6) Water until rain returns.



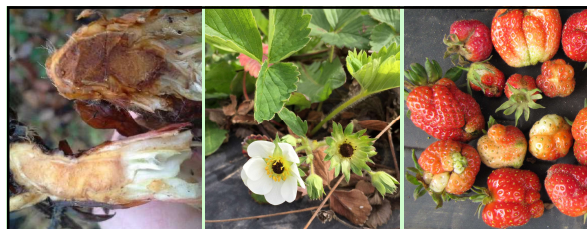
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Spring Tidy (Everbearing and Day-neutrals)

- Remove all dead foliage.
- Weed area thoroughly.
- If you have not consistently removed runners, thin plants to 4-6 inches apart.



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Winter and Strawberries

- Plants relatively cold hardy (to 10-20°) but can incur cold damage if plants not fully dormant.
- Buds and blossoms more susceptible to damage (30°) and can be hit by late frost.
- Frost heaving of plants with freeze-thaw cycle

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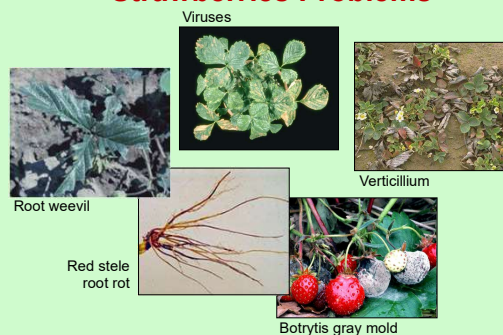
Winter Care

- Avoid late season applications of nitrogen.
- Possibly, apply 3-5 inches of mulch after temps drop below freezing.
- Replant if frost-heaving.
- In spring, remove mulch when plants show signs of growth.
- Protect with row cover, if frost likely when plants in bloom.



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Strawberries Problems



If you have had problems growing strawberries, share them in the Chatbox!

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Disease Prevention

- Select disease-resistant varieties.
- Purchase healthy, certified disease-free plants.
- Avoid planting sites previously planted with species that suffer from the same diseases.
- Space and thin plants to provide good air circulation and light penetration.
- Avoid overhead watering.
- Do not fertilize with excessive nitrogen.

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Disease Prevention (cont'd)

- Remove diseased/infested plants as soon as possible.
- Clean up plant debris.
 - Harvest in a timely fashion.
 - Remove fallen leaves and fruit.
 - Renovate June-bearing strawberries.

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Longevity

- Time, diseases, and pests take their toll and productivity declines.
- After planting year:
 - June-bearing planting remains productive for about 3-5 years.
 - Everbearing and day-neutral planting remains productive for 2-3 years.
- Need to start all over in a new site.

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Thank you! Questions?

If questions arise later ...

Email:
mgplantclinic.clallam@gmail.com

Plant Clinic Helpline:
(360) 417-2514



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Alpine Strawberries Fraise des bois

- Much smaller than standard strawberries but bear throughout the summer
- Care similar to standard strawberries
- Propagated through seed or by dividing the crowns



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White Strawberries

- Deficient in or lacking protein (Fra a1) that turn red as strawberries ripen
- Varieties of alpine strawberry, coastal strawberry, and pineberry
- Smaller and fewer berries than red commercial varieties



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Planting in Pots

1. Place 1½-inch PVC pipe (with holes drilled) in center of pot.
2. Add soil to bottom of first pocket.
3. Insert strawberry plant filling in soil around it.
4. Add soil to bottom of next pocket, insert plant.
5. Repeat until 2 inches from rim.
6. Plant 2-3 plants in top.



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Viruses

- Plant certified virus-tested planting stock.
- Control known insect vectors (aphids).
- Do not set new plants next to old virus-infected fields.
- Use cultivars that are tolerant to viruses.



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Verticillium

- Avoid planting in places where susceptible plants have been.
- Use resistant varieties.
- Plant healthy certified disease-free plants.
- Rotate with grasses.
- Remove infected plants and plants on either side.
- Do not replant in areas where infected plants have been removed.



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Red Stele

- Use certified disease-free plants.
- Select resistant cultivars.
- Plant in well-drained soils that do not have a history of red stele disease.
- Use raised beds and drip irrigation.
- Do not replant in areas where infected plants have been removed.



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Botrytis Gray Mold

- Space plants for good air circulation.
- Avoid overhead watering.
- Avoid excess fertilizer.
- Clean up plant debris.
- Keep berries from contact with soil.
- Pick off diseased fruit (do not compost).
- Plant resistant varieties.

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Spotted Wing Drosophila (SWD)



- Maintain open/aerated planting.
- Remove non-crop hosts from surrounding area.
- Harvest regularly and remove overripe/damaged fruit.
- Discard infected fruit in sealed containers or bury.
- Cover plants with fine netting as soon as adults detected.
- Apply carefully-timed insecticide to control adults.

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Slugs



- Till ground before planting.
- Clean up hiding spots.
- Handpick and destroy.
- Place beer traps.
- Use barriers such as copper flashing or abrasives
- Encourage/protect predators
- Apply baits such as iron phosphate (OMRI-listed) and metaldehyde according to label.

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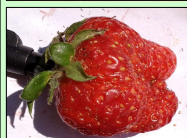
Misshapen Strawberries

Many causes of deformed fruit:
Poor pollination, cold injury to flower, tarnish bug, boron deficiency, and pesticide exposure

If due to inadequate pollination:

- Select varieties appropriate for microclimate.
- Encourage pollinators by planting early-blooming plants nearby.
- Uncover plants so pollinators have access to blossoms.

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Tarnish Bug

- Control weeds (alternate hosts) while tarnish bug is still nymph.
- Encourage predators that feed on nymphs
- Track degree days and apply insecticides aimed at nymphs.

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Disease Tolerant Varieties

- June-bearers
 - Hood (VW, RS, B)
 - Shuksan (V, B, RS)
 - Totem (V, B, RS)
 - Puget Summer
 - Puget Reliance (V, B, RS)
 - Benton (RS, V, B)
- Everbearers
 - Fort Laramie (VW)
 - Quinault (RS, B)
- Day-neutrals
 - Seascape (V)
 - Tristar (RS, VW, B)
 - Tribute (RS, VW, B)

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Storing in Refrigerator

Store for a couple of days in the refrigerator.

- 1) Spread berries in single layer on a tray.
- 2) Cover loosely with plastic wrap.
- 3) Refrigerate.
- 4) Wash immediately before use under running water and drain.
- 5) Hull after washing.

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Strawberry Huller



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Storing in Freezer

Store for up to a year in the freezer.

- 1) Select nice firm, ripe strawberries.
- 2) Wash in running water and drain.
- 3) Hull and cut out bad spots.
- 4) Spread berries on cookie sheet in single layer and freeze.
- 5) After about 6 hours transfer berries to freezer containers or bags and return to freezer.

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Tips for Making Jams, Jellies, Preserves



- Use tested recipes.
- Use undamaged fruit.
- Follow instructions.
- Use right amount of sugar; do not substitute artificial or herbal sweeteners.
- Determine if recommended fruit is whole, crushed, or cooked.
- Use clean sterilized jars and a canner or water bath.

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