

The latest fresh market strawberry bulletin from the OSC.

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## Fresh Market Strawberry Bulletin

**2-25-15**

**Irrigation and Fertiligation:** June bearing and day neutral fresh market strawberries have different growing requirements. This is largely true because June bearers are best grown using a matted row production system while day neutrals need a plasticulture production system. When growing day neutrals, you need a drip irrigation system to get water to your plants and a fertigation system to deliver nutrients. We will discuss these two items in more detail in this bulletin.

[Archived bulletins](#) are now available on the OSC website.



**Drip Irrigation:** With plasticulture, beds are shaped and plastic mulch is laid over them tightly. However, before the plastic goes on, the drip irrigation line (also referred to as "trickle irrigation") is installed beneath the plastic mulch. This system provides adequate water for plant growth, but limits moisture so that the root environment is not conducive to root rot. Watering beneath the plant also helps keep moisture off berries and reduces the risk of fruit rots.

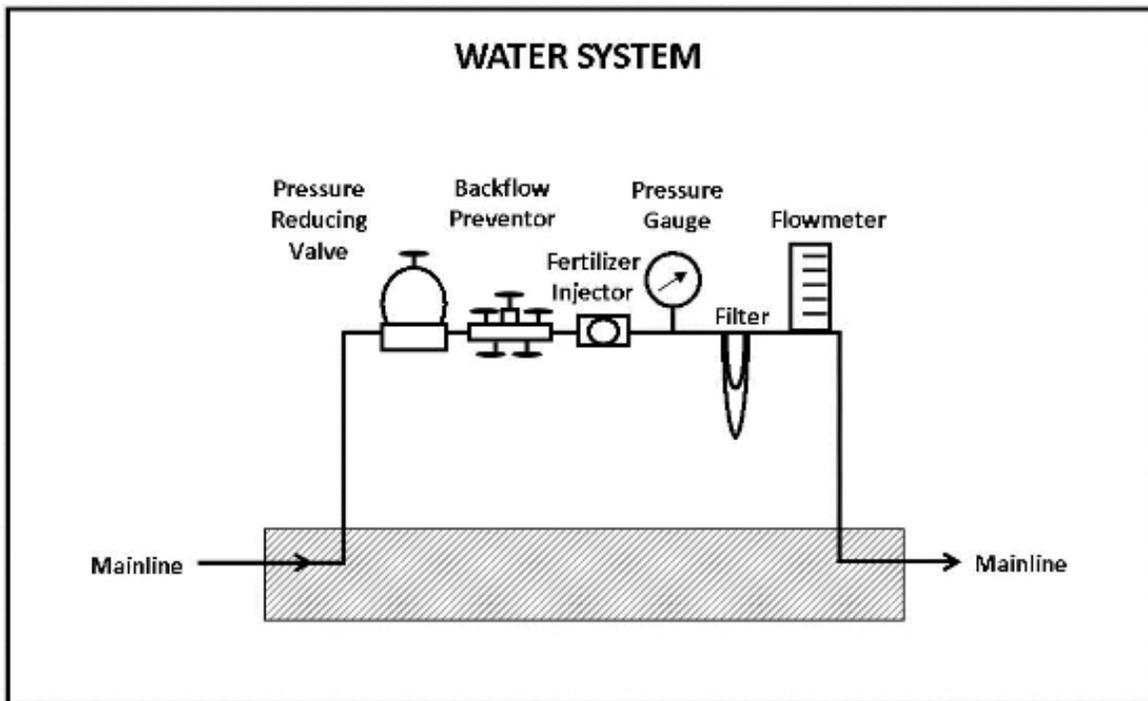
Drip irrigation allows water to go directly to the root zone, thus decreasing water requirements compared with overhead irrigation. This may particularly be a benefit where limited aquifer resources are an issue. Another key advantage to drip irrigation is that it allows for fertilizer application to use the same lines. Getting

nutrients to your plants in this manner is referred to as "fertigation."

### Typical Costs:

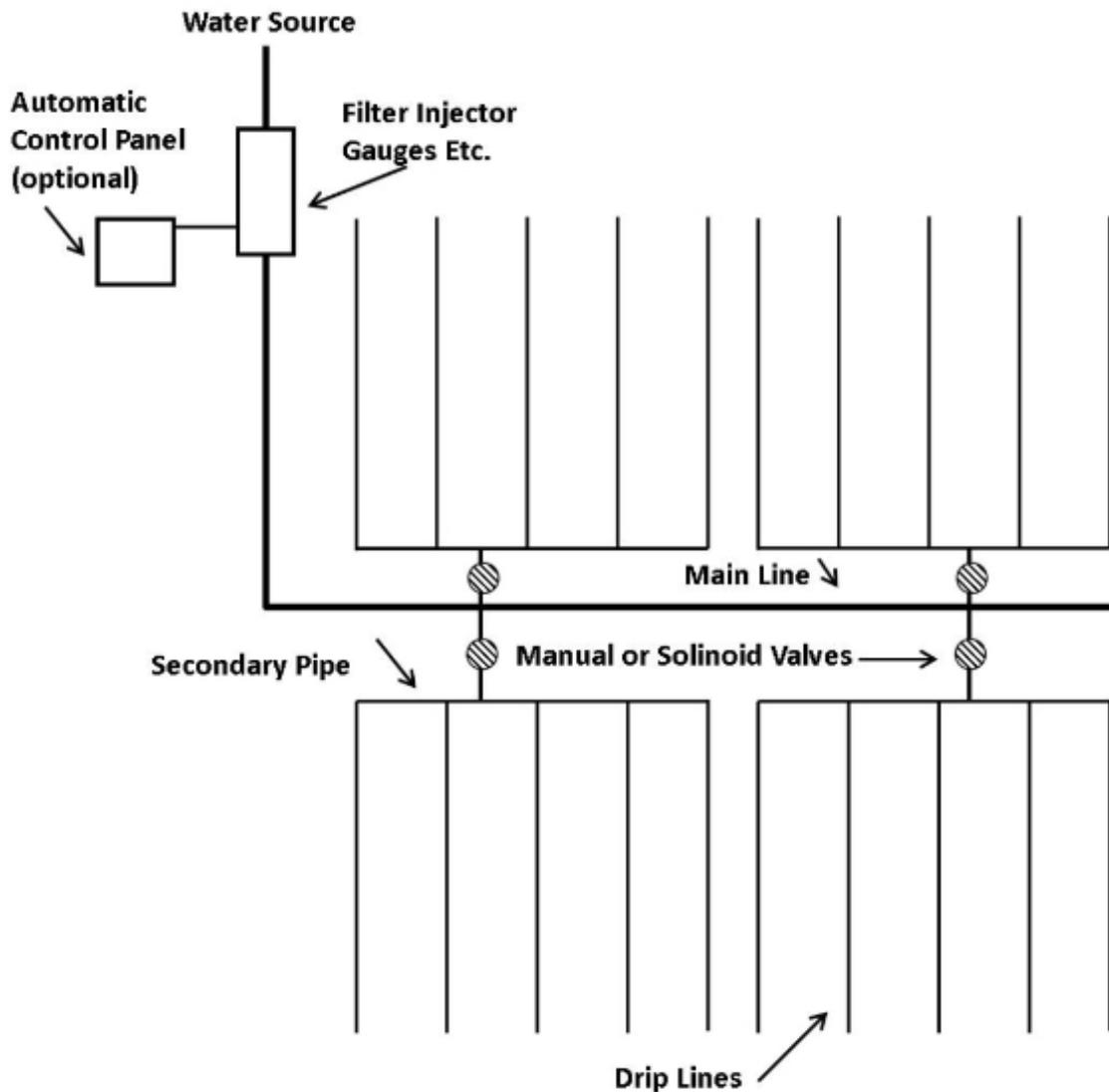
Start-up costs for a drip and fertigation system can be high, but this method can quickly pay for itself with improved fruit yields and quality. Typical costs for a plasticulture irrigation and fertigation system in Oregon include:

- Filter system valued at \$11,000
- Injection pump valued at \$2,000
- Drip line irrigation system valued at \$500/acre
- Sub-mains valued at \$300/acre
- Fertigation materials at \$250/acre



**Image above:** A typical system used to control drip irrigation.

## DRIP IRRIGATION



**Image above:** A typical irrigation system supplying multiple fields with individually controlled drip irrigation systems.

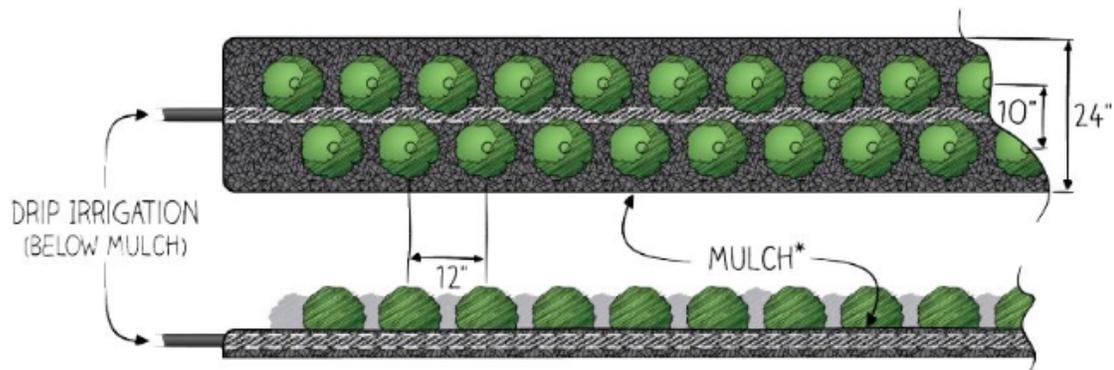
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### Watering specifics:

- Strawberry beds with two rows of plants will generally have a single drip line
- Choose lines with an emitter spacing of 12 inches or less to insure uniform soil moisture
- Plants will need to be irrigated from planting until fall rains
- Strawberries can use up to .23 inches of water per day during summer
- The root zone should be wet up to 1 foot below the soil surface (be careful not to over irrigate as it may cause nutrients to leach)

*Growers can use evapotranspiration records or soil moisture (preferably both) to*

*decide when to irrigate.*



**Diagram** of plant spacing, bed width, and drip placement. Illustration by Andrew Mack.

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### **Fertigation:**

**Day neutral strawberries need more nitrogen (N) than June bearers.**

Requirements for June bearers are typically about 50 lb of N per acre. In contrast, day-neutral cultivars grown in annual systems can use 120 lb or more of N per acre. Most day neutral fields in the Willamette Valley area are perennial and are in the ground 2-3 years. This means that rates of N may vary depending on your plant and soil needs.

At the Mt Vernon Washington State University research center, plots had good results when 0.5 lb N per acre per day was applied weekly from the onset of vigorous growth in April through mid-September. Some Willamette Valley growers in Oregon have had success at a rate equal to fertigating approximately 14 times throughout the primary growing season.

*Consult your local extension agent or university personnel to better understand how you should create a fertigation system plan that best fits your needs.*

### **Other specifics:**

- **Flush the system after each fertigation**
  - Strawberry plants use about as much potassium (K) as N, so it's important to supplement with K at a comparable rate
  - Calcium deficiency may include leaf puckering, tip-burn, syrupy exudate on leaf and petiole tissues and dense cover of seeds on unexpanded fruit
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### **References:**

1. [Grower's manual for strawberry season extension](#). Fraser Valley Strawberry

- Growers Association (Second addition). Baumann, T., Sweeney, M., Krause, A., and Gerbrandt, E. 2009.
2. [Growing day-neutral strawberries in Western Washington](#). Washington State University Extension Fact Sheet, FS132E. Hoashi-Erhardt, W. and Walters, T. 2014.
  3. [Strawberry economics: Comparing the costs and returns of establishing and producing fresh and processed market June bearing strawberries in a perennial matted row system to day-neutrals in a perennial hill, plasticulture system, in the Willamette Valley](#). Oregon State University, AEB 0052. Wahl, C., Liegel, L., and Seavert, C. 2014.
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### Upcoming Events:

- **February 27 - Oregon Farmers Market Association.** Annual Member Reception and Dinner (open to all members whose memberships are up to date). At the Adair Clubhouse, 6097 NEW Ebony Lane, Corvallis, OR. The Annual Meeting will be on Feb. 28, 7:45-8:45 am in conjunction with the OSU Small Farms Conference. For more information, [click here](#).
  - **February 28 - 15th Annual OSU Small Farms Conference.** At LaSells Stewart Center, Corvallis, OR. From 7:30 am - 4:00 pm. Read the [event agenda](#) or go to the [website](#) for more information.
  - **New: March 11 - Oregon Strawberry Commission Meeting ~** Research Committee @ 10:30am; Budget Committee @ 11:15am. Regular Commission meeting @ 12pm. For the agenda, [click here](#). McMenamins Restaurant, 310 NE Evans St, McMinnville, OR. For more information [email Philip Gutt](#).
  - **New: August 18 - Oregon Strawberry Commission Workshop and Field Demonstration ~** Morning workshop focused on day neutrals at Forest Grove Elks Lodge and plasticulture demonstration in afternoon at Unger Farms in Cornelius. More details TBA.
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### In the Upcoming OSC Bulletins...

Information on ag technology, pest management, and mulches.

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