Multiple trellis types maximize space in a commercial greenhouse. On the right, peas grow on permanent wire structures. In the middle, tomatoes are trained using twine and tomato clips. Photo by Maya Gilmore.

Maximize your harvest by trellising vining vegetables

Trellising vining vegetables and other crops is a gardening technique that involves supporting and training plants to grow vertically. This method not only optimizes space, but also offers a range of benefits that contribute to healthier plants and a bountiful harvest.

Trellising can be as simple as using string or baling twine to attach plants to a post or pole. In other cases, it may involve a more elaborate system with permanent supports and cables.

Trellises can be used outdoors as well as in places where growing space is at a premium, such as in high tunnels and other greenhouse-type structures.

Key benefits of trellising

1. **Space efficiency**
   - By encouraging plants to grow upward, trellising maximizes vertical space, allowing for increased planting density. Trellising also helps provide more room for other crops if the trellises are positioned so that they won't shade other growing areas.
   - Vertical gardening is particularly advantageous for those planting in small yards, balconies, or even indoor gardens. Trellised vegetables can be cultivated in containers or hanging baskets, providing a versatile solution for various gardening environments.
2. **Improved air circulation**
   - When vegetables sprawl on the ground, they create a dense canopy that restricts airflow. This can lead to moisture retention and create a favorable environment for pathogens. Trellising promotes better air circulation around plants, reducing the risk of fungal diseases.
   - The vertical orientation of trellised plants facilitates efficient drying of foliage after rain or watering, preventing the development of common fungal issues like mildew and blight.
3. **Enhanced sunlight exposure**
   - Growing vegetables on a trellis exposes more leaf surface area to sunlight. Increased

Modified “T” trellis using hog panels sections as guides for raspberry canes. The lower one is set approximately 18 inches from the soil surface and the second is set approximately 4 feet from the soil surface. Pros: good air flow and easier harvest. Cons: difficult to fertilize and probably difficult to clip the canes in the spring. Photos by Jeff Edwards.

sunlight exposure translates to higher rates of photosynthesis, promoting robust plant growth and better fruit development.

- Trellising also allows gardeners to strategically position plants for optimal sunlight absorption, ensuring that each part of the plant receives adequate light throughout the day.

4. **Ease of harvest**
   - Harvesting becomes a more straightforward task with trellising, as the vegetables are elevated and easily accessible. This is especially advantageous for crops like tomatoes, cucumbers, and peas, which can be challenging to gather when sprawling on the ground.
   - The elevated position of trellised vegetables reduces the risk of transferring soil-borne contaminants to harvested produce.
5. **Pest management**
   - Trellising acts as a natural deterrent to certain pests, as it limits direct access to the plants. Crawling insects and ground-dwelling pests find it more challenging to reach trellised vegetables, reducing the risk of infestations.
   - Additionally, trellising creates a visual barrier that can help deter larger pests, including rabbits and rodents, from accessing the plants. This contributes to a more pest-resistant garden, minimizing the need for other interventions.
   - Trellising can also help you spot pest issues more quickly as the insects may be more visible.

Plants that respond well to trellising

Trellis types vary in design and complexity. Many of the following crops can benefit from wire cages or attachment to a vertical livestock (hog) panel.

- **Cucumbers:** Since cucumbers are natural climbers and will attach themselves to a trellis using their tendrils, vertical hog panels work well. The fruit does not need to be supported.

- **Peas:** Horizontal twine or string, or even vertical hog panels, can be used. Peas also have tendrils, are natural climbers, and don't require additional attachment to the trellis.
- **Pole beans:** These beans are also natural climbers and don't need to be attached to the trellis. Horizontal twine or string, or vertical hog panels, can be used.
- **Tomatoes:** Indeterminate tomatoes, which continue growing until they succumb to frost or other factors, respond very well to trellising. Unlike determinate tomatoes, which reach a certain height and stop growing, indeterminate tomatoes can grow up to 8 feet tall or more, particularly when trellised and grown in a hoop house or other enclosed space. Tomato clips are recommended if twine or string is used to attach the tomatoes to the trellis. If tomato cages are used, it's not necessary to attach the plants to the structure.
- **Melons and squash**: Note that fruit may need to be supported. Commercial options are available, but you can also get creative and craft "hammocks" with everyday items (including pantyhose).
- **Hops:** Using vertical strings or twine, hops plants respond well to trellising (sometimes climbing trellises up to 20 feet).
- **Raspberries:** Raspberries, particularly primocane varieties, can benefit from the use of a "T" or "H" trellis with suspension wires (cable or twine) approximately 24 inches off the ground and then again about 1 foot from the peak height of the canes.

Whether you have a small backyard, a balcony, or an indoor space, trellis systems create possibilities for cultivating a diverse array of crops while optimizing resources and promoting a healthier, more productive garden.

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Pea tendrils wrapped around a spiral trellis for support. Photo by Abby Perry.