



## Urban Harvest

### Get the most of Garden Space with Permaculture

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Once a gardener realizes there are thousands of varieties of fruits, vegetables, herbs and habitat plants with ornamental appeal that grow here, and starts planting them around their yard, sooner or later the lack of space to plant them all emerges. Fortunately, permaculturists have a way to get more out of a space. It is called stacking.

Permaculturists use a number of principles derived from forest ecology to design sustainable, satisfying and productive landscapes in harmony with homes, communities and nature. The emphasis is to use materials and energy very efficiently.

One obvious way to get a lot out of a little is to get many uses out of the same investment. For example, trees perform many functions in forests. And, with a little forethought, the same tree can be of many uses in a landscape as well.

A small piece of land can be used for more than one use. A forest has multiple layers of vegetation: tall trees, understory trees, climbing vines, shade-growing herbaceous plants below them, and often fungus and lichens below them in a layer of mulch that feeds a subsurface microbial web. When permaculturists get multiple uses out of the same space, material, or energy expenditure, they call it stacking functions or simply stacking.

Since permaculturists design not just landscapes, but structures, organizations, nature centers and small communities, the concept is much broader than a landscape technique. Using a house roof to collect rainwater and to produce solar electricity, as well as provide shelter is an example of stacking.



The sprawling branches of this August fruiting Nagel fig can be stacked over a compost bin.



A vine like this Incense Passion Vine can be trellised on to a Grape that fruits earlier than the Passion Vine blooms. The passion vine is also a butterfly incubator, and both vines shade house walls in summer.

use of the seasonal growth of plants to get multiple harvests off the same space. Of course vegetable gardeners do this by replacing summer melons with autumn carrots, but to do temporal stacking, you need to use the same space at the same time. Planting lettuce in November under fruiting fall tomatoes would be one example of this technique.

But stacking is an extremely useful technique for a space-challenged gardener. Vertical stacking duplicates a forest by using the different heights over a space to get multiple uses. In our garden, we routinely grow grapes, passion vines and kiwis over footpaths, or shade-tolerant plants such as sweet potato spinach, or plants such as blackberries and sweet olive that

flower in the spring when the overhead vines are beginning their growth.

This approach is a variation on vertical stacking called temporal stacking. You make



This fall flowering incense passion vine is trellised on a later summer fruiting grape vine above a spring flowering sweet olive.



These August Fruiting Sweet Muscadine Grapes fruit above a garden path and over a spring fruiting blackberry.

If you want to learn more about permaculture, the fall sequence of classes begins Sunday afternoon, Sept. 28, with a single introductory exploration of my garden. See [urbanharvest.org/classes](http://urbanharvest.org/classes) and [urbanharvest.org/permaculture](http://urbanharvest.org/permaculture) or check out the video at [www.youtube.com/watch?v=BFDuM2P1E-Q&sns=em](http://www.youtube.com/watch?v=BFDuM2P1E-Q&sns=em).

*Urban Harvest produces this column. Learn about gardening classes, community and school gardens, farmers markets, fruit tree sales and more at [urbanharvest.org](http://urbanharvest.org).*