





Four Season Tools offers moveable high tunnels on tracks that are easily pushed, on skids that can be dragged like sleds, or conversion kits to make existing high tunnels moveable. They can effectively move your production 1 1/2 growing zones to the south.

## **Moveable Greenhouses Roll Where Needed**

Moveable "high tunnel" greenhouses could change the way nurseries and market gardeners raise crops. They make it possible to do several successive early season plantings by moving from place to place as plants get established. During the growing season, they can be moved where needed to protect crops from weather, birds or other predators.

"These mobile greenhouses can pay for themselves in a year," says Greg Garbos of Four Season Tools, Kansas City, Mo. "You get year-round crop production and the ability to easily rotate growing areas that helps with disease and pest control."

As an example, one grower uses his mobile greenhouse to seed carrots on February 1. By April 15, the carrots are able to handle outside temperatures, and the high tunnel is moved ahead one full space. This area is then filled with transplanted tomato seedlings, and the high tunnel is left in place throughout the growing season.

After the carrots are harvested in late spring, a winter crop such as leeks is planted in that area. Later that summer, a third area is planted to spinach. By Nov. 1, with the tomato harvest completed, the high tunnel is moved to protect the spinach. By December 1, the spinach is harvested, and the high tunnel is moved again, this time to protect the cold hardy leeks through harvest.

One acre of land can accommodate as many as six 30 by 48-ft. high tunnels moving across three positions each, says Garbos. He notes that not all hoop houses can be moved like the Four Season high tunnels.

"They are really beefy, heavy-duty structures with dozens of added braces," says Garbos. "At the same time, the components are common. They're structurally strong, very affordable and easy to move."

The concept was developed by Maine market gardener and author Eliot Coleman.

"He says with a single layer of plastic on an unheated high tunnel, you effectively move 1-1/2 hardiness zones to the south. By adding a low tunnel inside of an unheated high tunnel, you effectively move 3 hardiness zones to the south." says Garbos.

Four Seasons Tools offers fixed and moveable high tunnels. Their 16x24 moveable high tunnel for gardens starts at around \$3,500. The most common size of a moveable high tunnel for market gardeners is 30x48 that starts at around \$7,000. Larger moveables can reach 30x192. Garbos says most people add options including irrigation and temperature control systems that add to the base price.

The standard unit contains high sidewalls that are ideal for sidewall ventilation and plant trellising. The endwalls flip up so that the tunnel can be moved over crops already in the ground. Ridge vents, roof vents, air inflation, integrated shelves, moveable chicken house kits, and solar power are also available."

It is the mobility that is most impressive. Garbos explains that units can be set up with steel skids and can be pulled with a small tractor, animal traction, or a winching system.



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"Units can also be mounted on permanent tracks with fixed steel rollers so that one or two people can easily move a 16x24-ft. or 30x48-ft. tunnel," he says. "Once you know what you are doing with skids or wheels, you can move a 30 by 48-ft. high tunnel and secure it in place in less than 2 hrs."

Four Season Tools also offers consultation services to help establish schedules, crop rotations and even seed orders. A full line of garden tools developed by Coleman and his wife over the past 40 years is also offered for sale. They include soil blockers for starting plants, as well as seeding devices and tillage and weeding tools.

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