

Advances In Movable Greenhouses

Crops and animals have been moved and rotated through fields since the beginning of agriculture. Movable buildings add flexibility, increasing the ability to grow crops and/or raise animals in both conventional agriculture systems as well as in natural, organic, and sustainable systems. "Flexibility is one of the most common attributes that our customers like about our buildings," says Greg Garbos of Four Season Tools, Kansas City, Mo. "A Four Season structure is a big investment, so why not make it movable to take advantage of multiple season extensions each year?"

Movable high tunnels (also called hoop houses or greenhouses) help growers by mitigating the problems associated with stationary greenhouses, relating to soil, pests, and crop rotations and timing. Movable greenhouses help maximize the economic viability of diversified farms while also improving farm efficiency, increasing food security, and simply providing more delicious locally grown food through the year.

Since last year, Four Season Tools has updated both their track and skid moving systems. Their new patent pending V-Track integrates the moving and anchoring system. The first V-track greenhouse was designed with the help of Eliot Coleman and built at his farm in Maine. Together they are also working on endwall designs for moving high tunnels over existing low tunnels.

The pipe skid system originated from the positive response to the steel frame movable hoop coops. The skids and hoops are assembled the same way by one piece sliding over the crimped end of another.

Mike Bollinger, the Agriculture Specialist for Four Season Tools says, "We build four season organic vegetable farms. We help people create farm plans and determine the most efficient systems for their specific goals and circumstances."

It is important to understand how a greenhouse will fit into your operation. What is the correct amount of outdoor vs. greenhouse growing space? What is the best ratio between movable and stationary structures and heated and unheated structures?

"Ideally," Mike says, "I'd want one large heated plant house with 4 to 6 times the square footage in unheated movable houses." The plant house allows the farmer to jumpstart their transplants in the heated house and then move mature transplants into the unheated high tunnels weeks before they can be planted outdoors.

Stay tuned as new options continue to become available. Greg adds, "We're working



Two 30 by 48 three-position movable greenhouses on V-Track, photo courtesy of Wegman's Food Markets, N.Y.

hard to make movable greenhouses simpler and better; whether it's the next generation of our moving systems, prefabricated panelized metal endwalls, all metal structures, or experimenting with new applications for movable steel frame buildings."

Contact: FARM SHOW Followup, Four Season Tools, 9615 Grandview Rd., Kansas City, Mo. 64137 (ph: 816 444-7330; email: info@smallfarmtools.com; website: www.smallfarmtools.com).

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Pipe skids sleeve together for easier assembly, rounded skids help with lateral movement.



V-Track with integrated moving and anchoring system, the structure is secured to an anchored track.



Tomatoes trellised in a 30 by 48 movable greenhouse. Photo courtesy of Four Season Farm in Maine.