



Greenhouse options

Structure types vary, so pick the one that suits your operation best

Mark Leichty of Little Prince Nursery with Hellebore plants in a GK Machine 5000 series peaked-roof greenhouse. Leichty prefers greenhouses with peaked roofs in part because snow and ice easily slide off them. PHOTO BY MITCH LIES

BY MITCH LIES

AT LITTLE PRINCE OF OREGON NURSERY, a wholesale annuals/perennials grower in Aurora, Oregon, Mark Leichty works with several styles of greenhouses, including gutter connect, Quonset-style and peak-roofed structures. His preference is a **GK Machine** peak-roofed greenhouse, part of the Donald, Oregon, company's 5000 series. And, fitting with Leichty's philosophy, you can find several of the structures on the grounds at the nursery.

Leichty's main principle for greenhouse selection is, "Once you find what you like, stick with it." He gave several reasons.

"Your crew will get used to building it, and the more they do it, the easier it becomes," he said. "And all the parts are interchangeable. It just makes sense to do it that way, because anytime you're trying to make a conversion from one style of greenhouse to another, it's difficult."

Given the cost and the time a grower will spend working in a greenhouse, choosing an appropriate greenhouse for an operation is critical.

The basic premise with any greenhouse, is to extend the growing season when conditions outside are too hot or too cold for plant growth. But there are several ways to do that and several factors to consider when choosing a greenhouse.

Gutter-connect

The first big choice a grower will make when purchasing a greenhouse is whether to go with a gutter-connect or a freestand-

ing greenhouse.

"The upside of a gutter-connect greenhouse is they are very pleasant to work in," said Leichty. "You've got a large space that you step into, and you can see everything all at once. Your sight is not limited by side walls. And because they are gutter connected, the heat loss is less. You don't have as many side walls for heat to escape, so there is an advantage there."

"I think that a grower really needs to decide what they want to do and what they're going to grow," Leichty said. "If I were a house-plant grower only, I would absolutely have a gutter-connected greenhouse. You can control the light in them a little bit better, and there's probably better air circulation."

Another plus for a gutter-connect greenhouse is better utilization of square footage. At **Little Prince of Oregon Nursery**, for example, the nursery maintains a four-foot separation between its freestanding houses, a loss of production space that isn't at play in a gutter-connect greenhouse. "If an operation is limited for space, then it may be worthwhile in the long run to build gutter-connected houses," Leichty said.

Downsides of gutter-connect

The biggest downside of a gutter-connect greenhouse may be the cost difference between the price of a gutter-connect and a freestanding greenhouse.

"I have a lot of friends in this industry that I think would argue that in the long run, it will pay to put in a gutter-





Little Prince of Oregon Nursery is phasing out Quonset style greenhouses. According to Mark Leichty (right), they add braces to every third bow in fall and winter to prevent roof collapse due to snow or ice. PHOTO BY MITCH LIES

connected house,” Leichty said. “But it is a pretty long run to make up that much cost difference. They are many times more expensive than the freestanding houses.”

It can also cost more and take longer to replace covering materials on a gutter-connect greenhouse than on a freestanding greenhouse, Leichty said. “I’ve always thought gutter-connects are a little bit harder to replace the material on,” he said. “And always felt it was safer for workers to work on freestanding houses than in a gutter-connect.”

Leichty noted that his crew can replace the cover material on a freestanding house in well under the time it takes to replace covering material on a gutter-connect house.

“We’ve simplified the process,” he said. “So, we’ve got a couple of guys working on the ground. We’ve got one guy up on a scissor lift to unlock the peaks. And then we lift the roll up and remove the old poly (film). It’s a relatively simple process, and I’ve actually timed them.”

It typically takes Leichty’s crew 3–5 minutes to roll the plastic out on a 200-foot greenhouse.

Also, Leichty said, because his crew is so accustomed to working with the GK Machine 5000 series greenhouses, the crew can erect a greenhouse many times

faster than it takes to erect a gutter-connect house.

“I’ve got a crew of three guys that can put up a 30-by-200 foot house in a week because they are used to it,” he said.

Another thing to consider when purchasing a greenhouse is the convenience factor in getting replacement parts. To that end, Eric Bizon, owner of **Bizon Nursery**, a wholesale shrub and tree grower based in Hubbard, Oregon, in Hubbard, said he believes it is important to buy a greenhouse from a local manufacturer.

“In my experience, it’s really important to buy locally, because we have so many manufacturers here in Oregon, and if you need parts, if something goes haywire like on a Friday afternoon, you can get replacement parts pretty much the same day,” Bizon said.

The advantage of free-standing

One of the benefits of free-standing greenhouses is ease of organization, Leichty said, as well as meeting the climate control needs of individual plants.

“It’s easily manageable,” Leichty said. “Our production and sales software can identify exactly which greenhouse and which bay of the greenhouse every single crop is in, and how many of them there are.

“And another advantage I see in free-

standing greenhouses is that we can dedicate an entire greenhouse to one type of plant,” he said. “For example, we have a greenhouse that is dedicated just for *Hosta*. We have a greenhouse that is dedicated just to fuchsias. And we are able to do the climate controls right on point for what each one of the crops demands. And we have some houses that don’t have any heat and the only electricity they have is for rolling the side walls up and down. And in that kind of house, we put in plants that don’t require heat in the winter.”

Another consideration when choosing between a gutter-connect greenhouse or a freestanding house, according to Leichty, is spread of disease. If a plant disease gets into a gutter-connected house, it can more easily spread than if it is isolated in a freestanding house. “You can slow the spread of a disease down easier in single houses,” Leichty said.

When it comes to selecting between a Quonset-style greenhouse and a greenhouse with a peaked roof, Leichty said he prefers the peaked roof, primarily because of issues with snow. On the semi-gabled roof of the GK Machine 5000 series houses, snow will slide right off, he said, whereas on Quonset houses, snow and ice tend to build up. As a result, Little Prince installs support posts every third bow of

its Quonset houses. He added that the nursery is now phasing out the Quonset houses. But, he said, there are advantages to Quonset-style greenhouses as well, including that they are less expensive than other houses.

Temperature control

Greenhouses can be fully automated with preprogrammed climate controls. These can roll up walls when conditions get too hot for optimal plant growth. That's a vital feature, regardless of the type of greenhouse structure.

One production aspect to keep in mind when working with greenhouses is to make sure plants have some exposure to the elements before taking them outside, Bizon said. This can be done either through rolling up walls or adjusting interior conditions in other ways to mimic outdoor conditions.



In a gutter-connected greenhouse, your sight is not limited by side walls. And because they are gutter connected, less heat is lost, Mark Leichty said. PHOTO BY VIC PANICHKUL

Babying plants for too long in a greenhouse can lead to extensive plant loss when they are taken to the field, Bizon said.

Bizon uses greenhouses for propagation and for cold protection and sets his propagation greenhouses to mimic the environmental needs of the different plants. In some cases that means keeping

one greenhouse colder than another or inducing more air flow in one greenhouse than another. In some cases, he will keep a greenhouse warmer or more humid than another. And in some cases he will add more light penetration in the winter in certain greenhouses.

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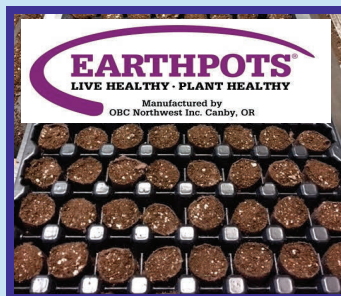


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ally prefer temperature fluctuations, Bizon exposes them more to the elements than he does his more sensitive conifers or deciduous plants, which he likes to keep in a climate-controlled environment.

Outdoor conditions

Mimicking outdoor conditions to better prepare a plant for the outdoors is a key premise behind Cravo greenhouses, according to Benjamin Martin, business development manager for **Cravo Equipment Ltd.**, in Branford, Ontario, Canada. The company features retractable roof greenhouses and recently introduced a retractable rain shelter, as well.

"When we started this company, we made these greenhouses that were really good for when crops were preparing to go outside," Martin said. "And I would say today, our focus is we're really an outdoor growing system."

The idea behind any greenhouse is to extend the growing season, Martin said, but not in a way that babies a plant. In the Northwest, that involves protecting plants from cold conditions in winter, he said, but introducing them to the outdoor conditions as soon as possible in the spring.

Bizon noted that in addition to exposing plants to outdoor conditions earlier than some nurseries might, he cuts back on fertilizer inputs and does some regimented water shortages to help prepare plants for the outdoors, management strategies that he said greatly improves their survival rate when moved outdoors.

The bottom line is a greenhouse can provide dramatic benefits to plant production when utilized correctly, Martin said. "When you manage the climate on a minute-by-minute basis through the whole season and the season is longer than outdoor conditions allow, then the plant will express its genetics in the best way possible, because you're optimizing the weather conditions for that plant and you're extending the season." And getting the greenhouse that best serves your operation, can provide benefits for years to come. ☺

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