

The Beamflicker

A single Beamflicker photoperiod control light system can cover up to a 30x90-foot area, depending on lighting requirements.

By Meghan Boyer

There is an alternative method for growers who wish to add a means of photoperiod control to their greenhouses. The Beamflicker, distributed by Parsource Lighting Solutions, Petaluma, Calif., is unlike the typical means of control on the market: It features a single, stationary fixture with an oscillating parabolic reflector that throws beams of light from a high-intensity sodium lamp back and forth across a greenhouse. This provides intermittent light across the growing area.

Available for production application for about 1½ years, the Beamflicker was invented by Richard W. Tinus, a plant physiologist with the USDA Forest Service. One unit can cover up to a 30x90-foot growing space (15 feet in front and back of the fixture and 45 feet on either side as it oscillates), depending on lighting requirements. It weighs 13 lbs. and measures 24 inches long, 18 inches wide and 12 inches tall. There are mounting holes in the top bracket for installing the stationary fixture. The Beamflicker comes with a mirrored aluminum parabolic reflector; aluminum housing with an 8-foot grounded power supply cord; high-intensity sodium lamp pre-wired with a 15-foot cord set; 400- or 600-watt sodium remote ballast assembly pre-wired with an 8-foot power cord; and instructions and warranty. It uses 120 volts, though alternate voltages are available.

What Growers Like

Though growers choose the Beamflicker for a variety of reasons, overall cost and bulb-type are in the forefront. Sam Kimling, operations director for Ohlman Farms, Toledo, Ohio, chose the Beamflicker as an alternative to typical methods of photoperiod control. He needed to extend the day length on certain products and didn't want to hang incandescent bulbs. Kimling explained: "It was less expensive for us just to put in a Beamflicker. We got the same results without having all of the bulbs and the long string of incandescents. With one Beamflicker we basically did the job of 20 or 30 incandescent bulbs." And after having the light for roughly 1½ years, Kimling still finds that it is relatively low cost because he feels it has cut down on his energy usage.

Shawn Speidel, a grower at Lawyer Nursery, Olympia, Wash., chose the light because he needed an economical way to achieve shorter nights. He was drawn to the high-pressure sodium bulb: "I really wanted to go with a high-pressure sodium [lamp] because of the red to far

red ratio with the light, and the Beamflicker seemed like the best option out there," said Speidel. For Speidel, the bulb delivers both a quality light spectrum and savings.

The high-pressure sodium bulb used in the Beamflicker contributes to cost effectiveness because it has a rated life of 24,000 hours; a typical incandescent bulb has a life of roughly 1,000 hours. Because of its long life, the high-pressure sodium bulb needs to be changed less frequently, which saves money in the long run and reduces upkeep. Speidel uses a total of four Beamflickers, two each in two 30x144-foot greenhouses. He said, "The thing I like about it [the Beamflicker] the most is that I only need two bulbs to do one

Installation and Maintenance

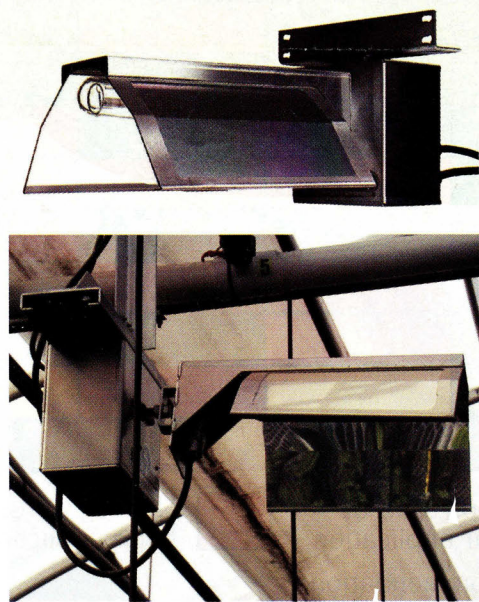
The Beamflicker's effectiveness and range of coverage depends on the height at which it is hung. Parsource recommends mounting the light 12-14 feet above the plant canopy so it can successfully cover a 30x90-foot area. Mounting the light below 8 feet limits how far light can be thrown. Though there's been some shadowing issues with an irrigation boom, Speidel said, "I like that it's just two assemblies put up there, and that they're totally out of the way."

Growers felt the Beamflicker was easy to install. Though the reflector moves back and forth, the fixture housing is stationary. Speidel simply made mounting brackets to hook it into the rafters and put it up. Kimling had a similarly easy time: "[We] just had to anchor it into position and plug it in," he said.

As far as maintenance, Kimling hasn't encountered anything unusual: "All we do is replace the bulb every couple of years. And then each year we're cleaning the housing and the reflector just to keep it up." Speidel encountered some excessive wear and tear on a few power cords: "There was a little trouble with the original cord design when it went into the part of it [the Beamflicker] that pivots. But I talked with one of the Beamflicker representatives, and they sent me some new replacement cords. They've had some other troubles with that. But it seems like that's a redesign that they've made, and I think it will be working fine from here on." Aside from the cord maintenance, the Beamflicker withstood the growing season for Speidel. He kept the plastic on throughout the growing season but plans to possibly do without it next season.

Both Speidel and Kimling recommend looking into your crops' needs prior to purchasing a photoperiod light system. The Beamflicker was originally developed for crops like conifer seedlings. But growers are now applying it to other types of crops, such as petunias. In some cases, the light level requirements are a bit unknown in unique crop applications. Speidel has this recommendation for other growers: "Just trial it. You have to take a look at what you want from it. For us, as far as extending the day length, it helps." **GPN**

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The Beamflicker fixture is stationary while the oscillating parabolic reflector throws light from a high-intensity sodium lamp throughout the greenhouse.

house. The bulbs are not overly expensive, and they seem to have lasted the season just fine."

Yet, Kimling and Speidel aren't the only ones who have found the Beamflicker to be economical: The USDA Forest Service conducted a study that compared the use of an oscillating high-pressure sodium lamp to intermittent lighting from incandescent bulbs on seven different conifer species in a greenhouse setting. The study estimates that relative to the oscillating light, using standard incandescent technology increases installation costs 1½-fold and electricity use 7-fold.