

## Overcome Gardeners' Winter Depression With Lights

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This is the time of year many gardeners are more than anxious to sow seeds, see green shoots emerging from the ground and feel the soft, warm soil. Seeing beautiful flowers, tasty vegetables and all the new varieties in garden catalogs and knowing the gardening season is still a couple of months away is like going to the ice cream parlor when you're on a diet -- tempting and depressing.

Like those suffering from **seasonal affective disorder** in the winter, I found that full-spectrum lights treat the problem quite well. However, instead of shining the bright light on myself for a period of time each day, I focus it on plants. Growing plants under lights is not a new winter diversion; however, now there are light units systems of all sizes and price ranges and new technologies on the market that make it easier to get the treatment for the problem.

### **Types of Lamps**

There are a few things to know before investing in a light unit to grow plants, such as the source of artificial light and the quality of light they emit. Although there are many new types of artificial lighting systems available for plants, such expensive high pressure sodium and metal halide lamps, home gardeners have found that fluorescent lamps are the most readily available, economical and efficient lamps for indoor light gardens. They generate very little heat, last longer and are cheaper to operate than incandescent bulbs.

### **Light Quality**

The quality of light that the artificial light source emits is vital to plant growth. The light we see is the visible part of the electromagnetic wavelength spectrum. When this light strikes a prism we can see its component colors -- red, orange, yellow, green, blue and violet. The colors of varying wavelengths in the visible spectrum play different, yet important roles in plant growth. Although most plants are green, they do not use light in those wavelengths. Wavelengths in the blue and red ranges are important to photosynthesis. Light high in blue wavelengths produces vegetative growth and short,

stocky plants. Plants stretch taller and flower when grown under red light. Fluorescent lamps emit light high in red and blue wavelengths, however, the amount depends on the type of lamp. Cool white fluorescent tubes are a good source of blue light and warm white tubes provide the red end of the spectrum. Their name refers to the way the light appears, not on the temperature of the lamps. Thus, an inexpensive light unit for plants is a two-lamp ballast containing a cool white and a warm white lamp. Manufacturers have developed special, “full-spectrum” lamps for plants that emit all wavelengths with a higher output of red and blue light. Many of these lamps can be distinguished by the purple or pink glow. Although they are excellent for indoor light gardens, they are more expensive than cool white and warm white lamps. Some examples of these lamps are AgroSun®, Growlux®, and Agro-Lite®.

#### Distance and Duration

Fluorescent lamps are most effective when suspended only six to eight inches above the canopy of the plants. This provides the maximum light intensity for plants to grow and flourish. Plants need a dark period, so invest in a timer and set it to provide 14 to 16 hours of light a day.

Like most things, fluorescent lamps don’t last forever. The light intensity and quality decreases with the life of the lamp. The lifespan of 40-watt tubes is approximately 9,000 hours, about two years when operated for 14 to 16 hours a day. To maintain optimum light quality for your plants or seedlings, it may be necessary to replace the lamps even though they still emit light. Dark bands at the ends of the tubes are good indicators that it is time for new lamps. A tip to help you remember the age of the lamps is to use a permanent marker and write the date you installed the lamp on an end of the lamp.

The **prescription for gardeners’ winter depression** can be as simple and inexpensive as a two-lamp fluorescent light ballast suspended in the basement, a timer, bag of potting soil and **seeds** of your favorite garden plants or a collection of your **favorite indoor plants**.