

FAQ - Horticultural Lighting

Environmental Impacts of T5 (at a glance):

- T5 lamps have a diameter of 5/8" – smaller is better when it comes to manufacturing, transportation and disposal.
- Reduction in raw materials and components needed for manufacturing.
- Reduction in lamp and fixture packaging materials due to relative size.
- T5 are constructed of 40% less glass than T8.
- T5 contain 30% less phosphor than T8.
- T5 contain 3mg of mercury. 70% less than T8.
- Longer lamp life means reduced maintenance cost and less going to the landfill.

6) What are the major differences between HID ballasts and electronic ballasts?

Frequency output to the lamp and energy conversion from electricity to usable light are the biggest differences between HID ballasts and electronic ballasts. HID ballasts produce a frequency of 60 Hz. Electronic ballasts vary from manufacturer to manufacturer, but the frequency produced can be 400x that of an HID ballast. HID ballasts produce more heat than electronic ballasts, thus making electronic ballasts more energy efficient. You will not, however, save money on your electric bill by using electronic ballasts. HID lighting has been available for 60+ years, while electronic ballast (especially 400 watt and higher) is a relatively new technology.

7) Are electronic ballasts more energy efficient?

Electronic ballasts are more efficient at converting electricity into usable light. Since your power bill is based on kilowatt-hours and not efficiency, a 1000 watt electronic ballast will cost you about the same as a 1000 watt HID ballast to operate.

8) How much energy will my light use?

An average lighting system will increase your electricity cost about \$8 to \$20 per month. The exact amount depends on the wattage of the system and the number of hours operated. To calculate your cost, multiply the bulb wattage X the number of hours of operation and divide by 1000. This figure is the number of kilowatt-hours of electricity used. (Example: a 400 watt lamp running for 18 hours will use 7.2 kilowatt-hours). Check your power bill for the cost of each kilowatt-hour. Then multiply the number of kilowatt-hours used by the cost of a kilowatt-hour (K/hr) to figure the cost to run your light for that many hours.

9) Do I need special wiring in my house for my lighting system?

Lighting systems are available in a variety of voltages. The standard used by most gardeners is 120 volts / 60 Hz which plugs into a standard wall outlet. Other voltages may require special circuits and receptacles. Always contact a licensed electrician if the light you purchased has special voltage requirements and never exceed more than 75% of the rated ability of the fuse/breaker. (For example: use no more than 15 amps on a 20-amp circuit.)

10) What voltages are available for HID and Fluorescent lights?

HID systems are available in 120 volt, 208 volt, 240 volt, 277 volt and 480 volt - All at 60 Hz. Fluorescent lighting varies, but most are available from 100 volt to 277 volt and 50 Hz or 60 Hz.

11) Will I save on my electric bill if I run my system with 240 volts?

No. Electric companies base your electrical bill on Wattage, not Voltage or Current. While ballasts wired for 240 volt will draw less current and run a little cooler than one wired for 120 volt, it will not save you money on your electric bill.

12) How often do I need to change my light bulb?

Most lamp manufacturers rate their lamps by "Average Life Hours" and usually claim 10,000 to 24,000 hours. These ratings are based on when the lamp will completely fail to come on. They do not factor in loss of intensity or loss of color. HID lamps lose intensity and color through normal use. This is OK if you are lighting a warehouse, but when it comes to plant growth, these losses can mean wasted electricity and poor plant performance. Serious horticulturalists recommend that you replace your lamps after 6000 hours of use. This equates to using your light 16 hours a day for one year.