

HID Grow Lights - Metal Halide or High Pressure Sodium bulbs?

An HID lamp operates with a properly matched transformer, capacitor and lamp bulb which consists of an inner tube filled with a chemical mixture. Basically you have a metal ballast with a cord that goes to the wall outlet and a cord that goes to the socket powering the bulb. A reflective hood sits around the bulb and reflects light onto plants that would otherwise be lost.

Metal Halide Bulbs

MH (Metal Halide) bulbs create light by passing electricity through an clear inner arc tube that is enclosed in the vacuum of an outer clear glass tube. This inner arc tube contains mercury and other metals in iodide form. When electricity is applied to these metal iodides they give off very intense light and heat. Metal halide bulbs produce an abundance of light in the blue spectrum which a plant needs in the growing phase and is excellent for green leafy growth, short internodal leaf spacing and keeping plants compact. The average lifespan is about 10,000 cumulative hours. The bulb will light up beyond this time but due to the gradual decline of light, it is not worth your while to wait for the bulb to finally burn out. Metal halide bulbs produce up to 125 lumens per watt.

High Pressure Sodium bulbs

High pressure sodium bulbs emit an orange-red glow. This band of light triggers hormones in plants to increase flowering/budding in plants. Their average lifespan is twice that of metal halides, but after 18,000 hours of use, they will start to draw more electricity than their rated watts while gradually producing less light. HPS bulbs produce up to 140 lumens per watt. Their disadvantage is they are deficient in the blue spectrum, young plants grown under HPS bulbs would end up thin and lanky. The exception to this is using HPS grow lights in a greenhouse or in conjunction with another light source that emits light in the blue spectrum. Light sources that have a high output in the blue spectrum like sunlight and MH grow lights offset any stretching caused by HPS bulbs.

HPS (High Pressure Sodium) bulbs are the most efficient bulbs that are available for grow lights. They are high in the red and yellow parts of the light spectrum and low in the blue, this imitates the autumn sunset. Because of this spectrum some plants that are grown with HPS (High Pressure Sodium) lights will grow elongated and rather leggy, while many other plants are not affected by the limited light spectrum. For plants that normally bud and flower in the fall an HPS (High Pressure Sodium) is usually the light of choice because it's light spectrum promotes flower production. Usually, plants that produce fruits or flowers will require 18 hours a day of blue spectrum (metal halide) lighting in the growing phase and 12 hours a day of orange lighting (high pressure sodium) in the flowering phase.

Guidelines on Hanging HID Lights

A general guideline for the proper hanging height of an H.I.D. lamp would be 12" - 48" depending on the wattage. Place your hand over your plants, if your hand is hot, you need to move your lamp up higher. If the light source is too close to your plants, you can burn them. Remember that as

your plants grow you will need to adjust the height of your lamp. You can buy Easy rolls which are ideal for adjusting your lights.

Metal Halide or High Pressure Sodium plant lamps?

If you decide to grow bushy harvests such as cabbage and vegetating herbaceous plants, your better option is a metal halide plant lamp. If you choose to grow blossoming plants, the high pressure sodium lamp is your better choice.

[See our range of HID Grow Lights.](#)

For any more hydroponic advice/information please see www.3ch.co.uk or phone one of our stores.