



Choosing a grow light



Metal Halide (MH) lamps emit primarily blue light making them ideal for the vegetative growth stage.

All You Need To Know When Choosing A Light To Grow
High intensity discharge grow lights (HID) HID lighting systems have made the dream of year round gardening a reality for tens of thousands of indoor gardeners and commercial greenhouse growers worldwide. Thanks to their incredible efficiency (up to 10x more lumens per watt than incandescent bulbs) and a color spectrum that plants love, indoor growers are able to achieve incredible results year round.

HID lighting is used worldwide by commercial growers HID grow lights provide many benefits that are otherwise unattainable with conventional fluorescent and incandescent lamps. Supplemental HID lighting enables commercial growers to increase crop yields, deliver crops to market on schedule and produce crops entirely out of season which can be very financially rewarding. HID lighting is so efficient and powerful that many indoor growers profit from its use year round. HID lights are powered by standard 110-120VAC wall current and use a regular three prong plugs to connect and all of our grow lights come complete with a ballast, bulb and reflector.

A primer on photosynthesis Plants have the unique ability to manufacture their own food. In the process known as photosynthesis, chlorophyll uses light energy to convert carbon dioxide from the air and water from the ground into food sugar. When these elements abound in a perfect environment, the production of food is limited only by factors that effect photosynthesis, being the intensity, color and duration of the daily light the plant receives.

[This chart](#) shows the relationship between chlorophyll activity and color of light. Common electric light sources are indicated on the chart. You will notice that Metal Halide (MH) and High Pressure Sodium (HPS) produce light in the most photosynthetically active spectrums.

As the chart indicates, cool (blue) and warm (orange) colors in the spectrum enhance chlorophyll activity and food production. Cool light is most pronounced during the summer months when the sun is highest in the sky. It is responsible for keeping plants



High Pressure Sodium (HPS) lamps emit primarily red light which causes exaggerated flowering and fruiting during the plant reproductive stage.

growth compact and shapely. Warm light, such as when the sun is lower in the sky during the fall harvest months, is responsible for triggering reproduction in plants in the form of flowers and fruits.

Thus, if you plan to grow mostly leafy crops such as lettuce and vegetative herbs, your best bet is an MH lighting system. If you want to grow flowering plants, the HPS lamp is your best bet. As a matter of fact, there are conversion bulbs which allow you to buy one type of system and use both types of lamps. Conversion bulbs cost more but give you the added benefit of being able to start your plants with the MH bulb, ensuring tight, compact growth, and then switching over to the HPS lamp when the plants are ready to fruit and flower for higher yield. The latest breakthrough is in switchable ballasts which can use standard MH and HPS bulbs. Look for them by Sunlight Supply.

The primary benefit to employing a High Intensity Discharge (HID) horticultural lighting system is the control it gives you over your plant's growing environment. In many areas, once fall arrives the growing season is over, and if you're a hard-core gardener like us, you'll miss it dearly! Horticultural lighting systems allow us all to extend the growing season by providing our favorite plants with an indoor equivalent to sunlight. This is a great advantage for those of us who appreciate having a year-round supply of fresh flowers, veggies and herbs! HID lighting is also great way to jump-start spring by starting your seedlings months ahead of last frost. The images at left show the relative color rendition of both MH and HPS lamps on a colorful magazine cover.

Sizes of grow lights MH and HPS grow lights come in the following Watt sizes; 50W, 100W, 150W, 175W, 250W, 400W, 600W,1000W and 1500W. A general rule of thumb for selecting the correct wattage grow light is to determine the size and shape of your garden area. Since grow lights emit a relatively square pattern of light, it is best to consider each light as covering a square of garden. Here is a list of the coverage each size grow light will provide.

50W = 1.5' x 1.5'

100W = 2' x 2'

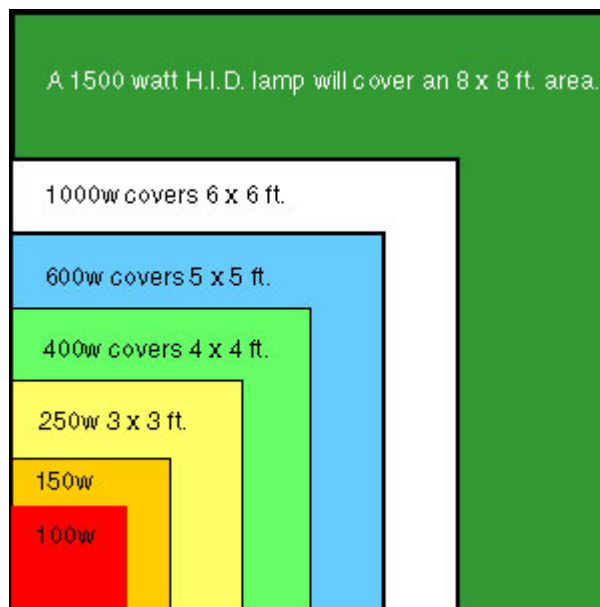
250W = 3' x 3'

400W = 4' x 4'

600W = 5' x 5'

1000W = 6' x 6'

1500W = 8' x 8'



Another great advantage of indoor horticultural lighting is your ability to control the length of daylight thus empowering you with the ability to force flower your favorite strain even when completely out of season. Remember, to grow perfect plants, the secret to the right light is Color, Intensity and Duration!