

FARM PRACTICE

LIGHTING

Description

Lighting is used on farms throughout British Columbia for a variety of reasons such as security, safety, and extension of working hours. Lighting is also used for specialized purposes such as crop production in the greenhouse industry.

The different types of lighting and fixtures used in greenhouses include – but are not limited to – incandescent, high-pressure mercury, fluorescent, tubular fluorescent, metal halide, high pressure sodium, and light-emitting diode (LED) lamps. High-pressure sodium lighting is the most common system. Lights are used in the propagation of seedlings and transplants and to provide supplemental lighting for greenhouse vegetable and floriculture crops during low light periods. The key reason for using supplemental lighting is to improve crop quality and yield.

Activities and Operations

Farm Marketing

Many farmers sell produce directly to the consumer from roadside stands, farmers' markets and the like. Lighting is used in these situations for safety, customer attraction, extension of sales hours, and special events.

Greenhouse Lighting for Vegetables

Supplemental lighting is used in greenhouses to produce vegetables and for the propagation of transplants. High pressure sodium lighting is the most common system used. The major propagation periods are from October to January and from May to July. Field vegetable transplants may also be produced in these same facilities from December to May. Lights may be in operation 24 hours per day. Irradiance levels for supplemental lighting vary with the crop produced, the type of greenhouse, and the time of year.

Custom propagators provide the majority of transplants for the industry but individual growers may propagate their own transplants. Lighting may be controlled by computers or manually to adjust for times when light levels fall below a certain threshold for optimum productivity.

Greenhouse Lighting for Floriculture

Supplemental lighting is used for plant propagation and crop production. High pressure sodium lighting is the most common system used. Lighting duration may vary from a few hours to 24 hours per day to improve productivity and flower quality, especially during low light periods.

Artificial lighting is also used to extend the natural day length or photoperiod. The photoperiod may be extended either at sunrise or sunset, or by breaking the night into two dark periods with a light period in between. Artificially extending day length with low-intensity lighting is a technique used to encourage floriculture crops to flower or come out of dormancy.

Yard Lights

Yard lights can range from low-wattage incandescent bulbs to high-intensity sodium or mercury vapor lights. These lamps are often controlled by photocells, and the duration of use varies with the time of year. Care must be exercised to ensure that the lighting intensity and placement do not distract motorists.

Legislation

Information on federal and provincial legislation can be found in Appendices B and C. Acts, regulations and bylaws that regulate or may affect lighting practices include, but are not limited to, the following.

Provincial Legislation

The *Safety Standards Act* and its associated *Electrical Safety Regulation* ensure that electrical safety is emphasized throughout British Columbia.

The *Transportation Act* forbids lighting which may distract motorists.

Local Government Legislation

Applicable local government lighting bylaws may apply in certain regional districts or municipalities.

Publications

Publications that provide further information on lighting include, but are not limited to, the following. Refer to Appendix D for details.

British Columbia Environmental Farm Plan Reference Guide
Floriculture Production Guide for Commercial Growers
Good Neighbour Guidelines for Lighting Greenhouses
Greenhouse Vegetable Production Guide for Commercial Growers