A key issue affecting adoption of biological control in protected culture is the variability in effectiveness of natural enemies. Growers need natural enemies to provide predictable and reliable control of a pest. Predictable biological control requires that we have an understanding of how environmental conditions affect both the pest and biocontrol agent. Greenhouses are unique in that environmental conditions can be manipulated. The greenhouse whitefly, Trialeurodes vaporariorum (Westwood) (Homoptera: Aleyrodidae) and western flower thrips, Frankliniella occidentalis (Pergande) (Thysanoptera: Thripidae) are important pests of greenhouse vegetable crops worldwide. It has long been recognized that the effectiveness of biological agents in the winter in northern temperature regions is reduced. Short day length, low light intensity and low temperatures have been suggested as possible explanations for this reduced efficacy. Little information is known about the influence of light on the behaviour of natural enemies. We present results from studies investigating the influence of light quality (intensity) and light quantity (day length) on the feeding and oviposition activity of: 1) two aphelinid parasitoids, Encarsia formosa Gahan and Eretmocerus eremicus Rose and Zolnerowich (Hymenoptera: Aphelinidae) on greenhouse whitefly and, 2) a predacious mite, Neoseiulus cucumeris (Oudemans) (Acarina: Phytoseiidae) on western flower thrips. Results are put in context of greenhouse management in Canada.