WEED CONTROL IN LOWBUSH BLUEBERRIES

"Weeds are generally considered to be the greatest constraint to economical lowbush blueberry production," writes Peter Burgess.[1]

The challenge is particularly great for organic growers. With lowbush blueberries, the common organic weed control methods of cultivation and crop rotation don't apply. Instead, the focus is on giving the crop a competitive advantage by altering soil conditions and suppressing weed growth once or a few times a season.

Weeds can be controlled by the following:[1]

1. Mowing. Mowing in early spring can prune plants and control weeds. Later in the season, a sickle bar mower can be used a few times a season to cut the weeds that are taller than the blueberry plants. This will weaken the energy reserves of the weeds and may prevent the taller ones from going to seed.

2. Burning. Burning in early spring or late fall can kill many annual weeds, destroy weed seeds, and suppress perennial weeds. It also controls certain pests. Burgess recommends burning fields at least once every four years to prune plants and control weeds. However, burning can also be risky, expensive and may destroy soil organic matter.

3. Modifying pH. Blueberries thrive in soils that are too acidic for most weeds. By applying sulphur to fields, growers can reduce the soil pH. At a pH of 5.0, blueberries will outcompete much of their competition.

Burning lowbush blueberry fields kills competing vegetation, pests and diseases, but can be dangerous and reduce levels of soil organic matter. Photo: G. Kuwar

Goutam Kuwar is conducting an Organic Science Cluster study to compare the effects of mowing and burning, and to assess the impact of applications of sulphur. Kuwar is a graduate student under the supervision of Dr. Nathan Boyd of the Nova Scotia Agricultural College.

Kuwar's preliminary results from one study site revealed the following:[2]

- Spring burning led to higher crop yields and greater weed control than spring mowing.
- Applications of sulphur boosted crop yields and suppressed weeds.
- Plots that were burned had higher levels of soil organic matter, nitrogen, potassium, calcium and magnesium, compared to plots that were mowed.
- Plots that were burned had more flowers than plots that were mowed.

The results from one site clearly indicate that burning is an effective means of weed control, particularly when combined with applications of sulphur. The study did not, however, evaluate the impact of mowing during the growing season. At this site, 'straw burning' was used where straw is applied to the field before burning.

The second site had a 'free burn' (i.e., no straw was added). Results from this site found no significant differences in weed control, soil quality or blueberry yields between mowed and burned plots. However, more flowers were found in the burned plots.

Adopting the 'many little hammers' approach to weed control, several methods may be needed to control weeds in blueberries. Perhaps burning and applications of sulphur every few years, combined with mowing a few times a season can provide cost-effective weed control in lowbush blueberries.

—Janet Wallace

References

1. Burgess, P. 2004. Weed control. In Campbell, R (Ed.) *Organic Wild Lowbush Blueberry Information*. pp. 23–26. www.oacc.info/DOCs/Organic%20blueberry%20Guide.pdf.

2. Kuwar, G. Pers. comm. April 24, 2012.