9. Pruning in Wild Blueberry Fields

INTRODUCTION

Unless pruning is done to rejuvenate it, the blueberry plant becomes increasingly branched, putting more of its energy into vegetative growth. Since fewer floral buds are produced, the plant becomes less and less productive. Pruning therefore consists of eliminating the aerial part of the plants to stimulate the emergence of new and more productive shoots directly from the rhizome. Marking the beginning of each cycle of production, such regenerative pruning is practised every two or three years. It can done either by burning or by mowing.

WHEN TO PRUNE

Pruning must be done when the plants are dormant, a period that begins after the first severe frost in the fall, ending in spring before budbreak. The choice of whether to prune in late fall or early spring depends on a number of factors, including the technique to be used, the weather, the presence of pests (diseases, weeds, insects), the machinery available and the topography of the terrain.

Spring pruning...

- leaves less time for weed control and fertilization;
- reduces the risk of winter frost damage, because plants left unpruned over the winter help to retain a protective snow cover;
- if done too late, shortens the period of growth before floral buds begin to form, reducing crop potential the following year. Pruning after growth has already begun means wasting energy that the plants had stored over the winter.

Autumn pruning...

- leaves more time for work to be done in spring;
- if done too soon, cuts short the accumulation of nutrient reserves in the plant’s rhizomes, which serve for the resumption of growth the following spring. Making this mistake repeatedly can stunt the blueberry’s development.

MOWING

Mowing consists of cutting the plant down to within a centimetre of the soil, either in the fall or in spring. The cut must extend beneath the lowest lateral buds on the stem, as close to the soil as possible, to ensure that new stems develop from the rhizome (Figures 1a and 1b). The cutting height of the blades must be carefully adjusted to prevent them from digging into the soil and disturbing the organic matter layer. Particular vigilance is required in the presence of knolls to avoid...
damaging rhizomes. Careless mowing can create erosion zones.

For effective mowing, speed of travel should be slow and adjusted to variations in the terrain and the equipment employed. For clean cutting the blades must be in good condition.

There are two types of mower on the market: rotary mowers and flail mowers. Rotary mowers are used less and less because on uneven ground they provide less uniform cutting height and can damage the soil. Flail mowers (Figure 2) offer superior pruning for the purposes of wild blueberry growers, and on rocky ground their construction makes for more robust performance. Flail mowers are available in single or multiple sections, while various models offer different degrees of ruggedness to match the terrain.

Note that if the mower is too wide, it will cut too high in some places while cutting too low in others and damaging the organic matter layer. Choice of mower width should therefore be carefully gauged in terms of the terrain involved.

**Autumn mowing**

The main advantages are the following:

- most stems that were not reduced to ground level will be destroyed over the winter. This ensures that regrowth comes from the rhizome instead of the old stem;
- since the plant contains less sap in the fall, it is easier to cut cleanly.

**Spring mowing**

Spring mowing must be performed with particular care, because stems that are cut too high will be left bearing whatever lateral buds survived the winter. The result will be a certain proportion of new stems branching out from these lateral buds instead of arising from the rhizome. For clean cutting in spring, the blades should be changed frequently.

**BURNING**

Burning can be performed either in the fall or in spring, provided the plants are in their period of winter dormancy. The heat of burning serves to destroy the aerial part of the blueberry plant. For burning to make a positive contribution to regeneration while also controlling crop pests, it must be done with care. In effect, if the heat is too intense it can damage the organic matter layer, while also raising costs through the excessive use of fuel. Conversely, if the heat is inadequate the intended effects will be less than uniform, resulting in lower productivity at the next harvest. An ineffectual burn will also leave harmful organisms in the surface litter.

So long as the bark is destroyed, the burn is sufficient. The heat need only cause the buds to pop, there is no need for crop residues to burn. The operator must therefore have a good understanding of the equipment’s effectiveness in different weather and with different levels of soil moisture.

To chop down any stem ends that would interfere with semi-mechanized harvesting, burning can be preceded or followed by mowing. For this purpose, cutting height can be higher than when mowing for regeneration.

In the case of rough terrain where a mowing operation has not given satisfactory results, the work can be completed with a quick burn to destroy any lateral buds still present on the stems. New shoots will then emerge directly from the rhizomes, which will be more productive. Sometimes it is necessary to do spot-burning in areas that can’t be reached by the mower.

Burning is most often done using an oil burner (Figure 3). Propane gas burners are also available.

Note that before you can do burning in a blueberry field, you must obtain a burning permit. You must also prepare a firebreak in accordance with regulations. For more details on the requirements for obtaining a permit, please contact SOPFEU at 1-800-463-3389.
Autumn burning

Fall burning tends to cost more than spring burning, because moisture levels are usually higher.

The main advantages of fall burning are the following:

- less risk of damaging the organic matter layer;
- obtaining a burning permit is usually easier;
- it frees up time for weed control and fertilization the following spring;
- less risk of losing control of the fire, since soil moisture levels are higher;
- burners are more available for burning contracts.

Spring burning

Spring, when the ground is still frozen or moist, is the best time to conduct burning. In these conditions, preserving the organic matter layer is much easier. If burning must be done later in the spring it should be fairly light.

COMPARISON OF MOWING AND BURNING

When done well, mowing and burning are equally effective for the regeneration of wild blueberry plants. Burning has the following advantages:

- does a good job on rough terrain;
- can reduce the incidence of certain diseases, insect pests and weeds.

Mowing has the following advantages:

- when done well, has little or no risk of destroying the organic matter layer;
- permits plant rejuvenation in a single step instead of two as is usually the case with burning;
- the work can be done in any weather, unlike burning;
- presents fewer risks to natural allies such as beneficial predatory insects and pollinators;
- costs less than burning.

To enjoy the respective advantages of both methods, they can easily be combined. The recommended approach is burn once and mow twice in every three rotations, beginning in the fourth year after development.
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RESOURCE ORGANIZATION
SOPFEU on burning permits

COMPLEMENTARY LEAFLETS
5. Growth and Development of the Wild Blueberry
6. Frost Prevention in Wild Blueberry Fields
17. Pruning as a Method of Protection against Blueberry Pests
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PRODUCED BY

Funded by

Wild Blueberry Production Guide