



Weed Management In Saskatoon Orchards

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Negative Effects Of Weeds

Weeds are a problem because they compete with fruit plants for water and mineral nutrients, they can make movement on foot or by machines difficult, they can harbour insects, mites and diseases, they retain moisture after rainfall (thereby increasing humidity levels within the orchard, which encourages the growth of fungal diseases), they may increase the risk of frost damage by reducing soil heat absorption during day and re-radiation at night, and they make the orchard appear neglected and reflect on the competence of the grower.

Positive Effects Of Weeds

Weeds can be of some benefit to the grower in that they can act as a mulch, can provide some control of soil erosion, and can be used as a green manure.

Weed Control Prior To Orchard Establishment

It is essential to destroy perennial weeds such as quackgrass and Canada thistle prior to orchard establishment, otherwise subsequent control will be very difficult. Actively growing weeds may be treated with

Roundup and the site then cultivated once the weeds have been killed.

Timing Of Weed Control

Knowing weed life cycles and how they reproduce is essential for controlling them. Weeds must be removed before they set seed or spread vegetatively.

Methods Of Weed Control

There are a variety of methods that can be used for weed control, including mechanical methods (heavy mulching, handweeding, mowing, cultivation, burning, use of steam or hot water), chemical methods (herbicides), and biological methods (grazing animals such as geese, cover crops).

The most difficult weeds to control are low-growing perennials. Consistent tilling or mowing is necessary to prevent seed production and to deplete the root reserves of such weeds.

Mechanical Weed Control

Periodic, shallow cultivation in combination with some hand hoeing and/or mowing can be used to control weeds. Deep cultivation and cultivation too close to the

plants is not suggested because roots can be damaged and extensive suckering may be promoted. Cultivation for weed control is especially important during the early years of orchard growth, but because newly-planted fruit plants can be easily damaged, extra care is required. Shallow cultivation is the best method for controlling weed growth in row alleyways.

Cultivation makes more water available to fruit plants by killing weeds. Cultivation maintains soil aeration, stimulates the activity of soil organisms, and may destroy some insect pests by exposing pupae to hot sun, or cold temperatures. In wet years, it is best not to cultivate later than mid- to late-summer; subsequent weed growth will help slow fruit plant growth and provide for better winter hardening. However, weeds must not be allowed to grow too large, nor must they be allowed to set seed, otherwise cultivation may be ineffective. Shallow cultivation (5 to 8 cm deep) will not cause damage to the shallow roots of the fruit plants.

Annual weeds must be mowed when their flowers first appear. Mowing is less effective for perennial weed control. Frequent, repeated mowings may be required for 1 to 3 years.

Chemical Weed Control

Five herbicides are registered for use in saskatoon orchards: glyphosate (Roundup); trifluralin (Bonanza 400, Rival 500EC, Treflan EC,); sethoxydim (Poast Ultra); dichlobenil (Casoron 4G); and linuron (Afolan F, Linuron 480, Lorox DF). One herbicide, trifluralin/metribuzin mix

(Treflan EC/Sencor 95 DF), is registered for use for saskatoons grown in shelterbelts. A grower may use only legally registered herbicides at the recommended rates on saskatoons.

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