

The Importance of Straw Mulch on Strawberries

Strawberry plants are considered a tender perennial on the prairies and require additional winter protection to survive our extreme winter temperatures. Mulching with straw is necessary to protect the crop from low temperature injury to crowns and shallow root systems. When properly applied, straw mulch keeps soil temperatures more uniform, prevents plants from drying out from cold and dry winds, and helps trap snow.

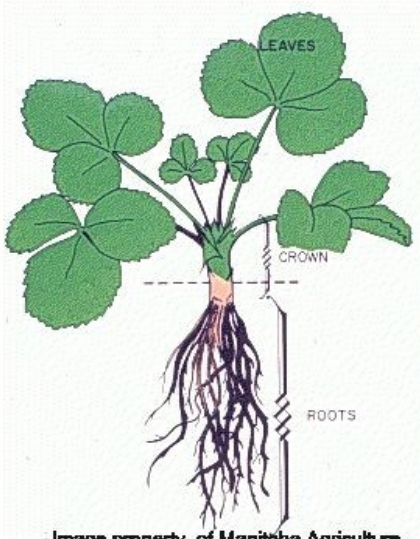
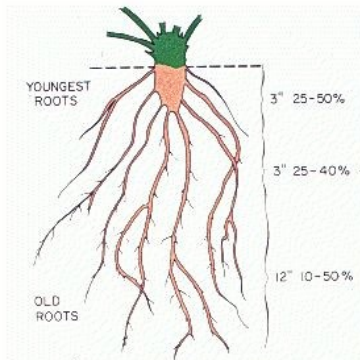


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Mulch is usually applied in late fall after several frosts but before temperature drops to -6.7°C . Typically wheat or rye straw mulch should be applied 4-6 inches thick, which will settle down to 2-3. This works out to 2-3 tons per acre which is approximately 120 small bales or 12 round bales per acre required. A loose and fluffy covering of straw mulch will provide a good insulation layer. It is preferred that straw sticks up somewhat to help trap snow, as opposed to laying flat.

Strawberries Shallow Rooted



MOST ROOTS LIVE ONE YEAR REPLACED BY ROOTS HIGHER ON CROWN
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The majority of June-bearing strawberries roots are contained in the top 15cm (6 in.) of soil. While Day neutral strawberries have an even shallower root system with most roots in the top 8 to 10 cm (3 to 4 in.).

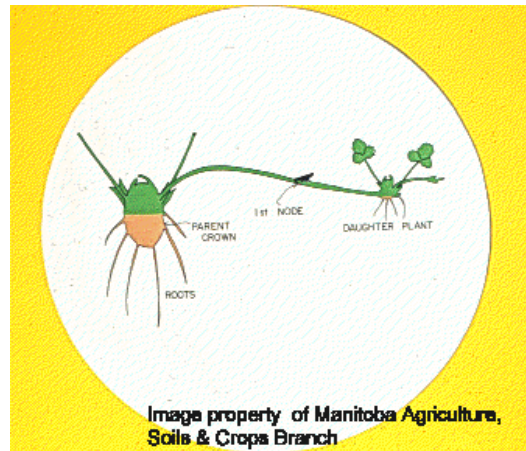


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Protecting Strawberry Crown Critical

Protecting the strawberry crown from cold temperatures is critical to the development and growth of the plants as leaves, runners and flower buds all develop from the crown. The strawberry crown is essentially a short stem where leaves develop at points called nodes or auxiliary buds. New leaves develop with a bud in the axil of each leaf (auxiliary buds). These auxiliary buds will either remain undeveloped, grow and form runners or grow to form a side or branch crown.



Environmental factors like day length and temperature influence the development of auxiliary buds. The buds of June bearing strawberries develop into runners during the summer's long 14 to 16 hour days. However, once the days grow shorter in August and September, the buds no longer form runners, instead they form branch crowns and flower buds. The more branch crowns that are formed, the greater the potential for fruit production during the next year since each crown can produce one flower stalk on which fruit is borne. Flower buds are formed in the tip of the crown in what is known as terminal

inflorescence. The buds of day neutrals can initiate flowers under any day length on the Prairies (usually mid June to late fall).

Shelterbelts and Snow Cover

In addition to snow cover, permanent shelterbelts (or temporary shelterbelts like corn plantings) are required to 1) reduce wind velocity to prevent straw mulch blowing off plants and 2) assist in obtaining a uniform snow cover over the plants and straw mulch for additional insulation from winter temperatures.

Straw Mulch is Your Protection Against Unpredictable Winter Weather

Even in regions with consistent snow cover should have straw mulch applied. Mulch will protect plants from cold temperatures that can occur: 1) in early winter before snow arrives, 2) during the winter after mid-winter 'chinook' snow melts, 3) in the late winter/ early spring after snow cover has been melted away. Consider straw mulch as providing added protection for those extreme early/ late winter weather events and additional insulation protection overall (more R-value, to use home insulation terminology).

This article has been adapted from the Guide to Commercial Strawberry Production on the Prairies and MAFRI Fruit Crops Commercial Strawberry Production Website.

Resources

Guide to Commercial Strawberry Production on the Prairies

To purchase: www.gov.mb.ca/agriculture/crops/cropproduction/gaa01d15.html

MAFRI Fruit Crops Commercial Strawberry Production Website

www.gov.mb.ca/agriculture/crops/fruit/blb01s01.html

For more info please contact:

Anthony Mintenko

Fruit Crops Specialist, Crops Knowledge Centre

Manitoba Agriculture, Food and Rural Initiatives, Carman, MB

Anthony.Mintenko@gov.mb.ca