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Carrot Foliage Trimming Equipment Technology

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Canada 

Carrot Foliage Trimming Technology

The carrot foliage trimming (CFT) concept is both simple and effective. There were two commercial 9-row units (Nova Scotia, Canada and Wisconsin, USA) in operation in 2007 and 2008 on about 1000 -2000 acres depending on region. There are now units in Prince Edward Island and UK in 2008. The farmers/farm managers are very impressed with performance (75-100 ac/day at speeds ranging ground from~ 6-11kph depending on field conditions). They are quite happy with the control of Sclerotinia rot in carrots (SRC). Both observed additional benefits, such as less foliar blight and in particular, much less bacterial soft rot in Wisconsin and Nova Scotia. Another feature was the improved harvesting as a direct result of less carrot tops to be handled by the harvester. The harvesters could really fly along when dealing with those less tops and the tops were not tangled as they can be in closer row spacing. Carrot growers in many other national and international regions are receiving information on trimming technology

To date there has not been any equipment manufacturer step up to build and sell CFTs. It appears that growers are likely to build a CFT themselves or contract to have a unit constructed.

In PEI, data indicates that growers lost \$1000 - \$1600/ha due to SRC in 2006 and 2007 on storage carrots. In Nova Scotia and Wisconsin, growers recovered the cost of their CFT in the first year of use (2007) by using less spray applications and a significantly higher marketable or saleable return on their crop.

We will be very happy to work in any way to advance this concept with your growers.

Kevin

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<http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1181921175873&lang=e>

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Carrot Foliage Trimmers



AAFC trimmers



Patrykus Farms



Brookfield Gardens



Oxford Frozen Foods



Mid Coul Farms

PEI AAFC's Research prototype carrot foliage trimmer

AAFC's 2006 PTO Version



4-row trimmer on 4-row seeded beds with all rows at 86 cm centers



AAFC's 2007 hydraulic version



PEI AAFC's Carrot foliage trimmer

PEI carrot field not trimmed



PEI carrot field trimmed



PEI carrot field trimmed debris



Oxford Frozen Foods, Oxford, NS Contact: Angus Ells



9-row trimmer on 9-row seeded beds with all rows at 56 cm centers, each disc is about 22 in (56 cm) diameter. Each set of 2 disc are independently moving and are held down by a heavy spring. The idea here is that if a disc hits a rock then there will be some give. There are many rocks in Nova Scotia fields so this is a good concept. All discs are set at 56 cm which means 56 cm of canopy is removed leaving 56 cm of carrot canopy. Normally carrots are trimmed twice; one just pre-closure and a few weeks later upon re-growth.

Oxford realizes that removing this much canopy may reduce yield but feels the added disease benefits, reduced pesticide use, improves quality and pack-out, and easier harvesting far outweighs any losses. Trimming is now a production practice on all 2500 acres of production.

Oxford Frozen Foods



Not trimmed



Trimmed



Foliage removed



Nicely trimmed

3 beds of 3 row each are formed with a bed shaper and seeded with a 9-row air seeder. Individual row are not raised very much, essentially flat.

Debris



Patrykus Farms, Wisconsin, USA Contact: David Beggs



9-row trimmer on 9-row seeded beds with all rows at 46 cm centers. The amount of canopy removed is less seen in the next slide. This is a PTO version using table saw blades.

Patrykus is very pleased with unit and disease control of Sclerotinia but also observed much less bacterial soft rot and also ease of harvest.

Patrykus Farms



Not trimmed



Trimmed



Debris

Brookfield Gardens, Brookfield , PEI Contact: Gerald Dykerman



4-row trimmer on 4-row seeded beds with all rows at 96 cm centers

This is a very simple unit to build. They just bought a used tool chassis and equipped it with discs. These are solid set, not spring loaded as the Oxford trimmer, as rocks are not a problem in PEI and if it hits an odd one then should withstand it. Unit runs on boggy wheels. It is shown mounted on a navigation unit but they found it didn't work well so they drove it free style and got along great. These are about 20 in (50 cm) discs.

They are shown above set too narrow. Removing this much canopy at row closure will reduce yield.

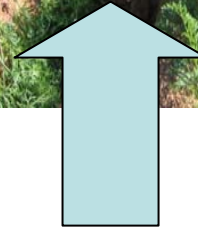
Brookfield Gardens



Trimmed



Debris



Mid Coul Farms, Culblair Farm, Dalcross, Inverness IV2 7JJ
Tel: +44 (0) 1667 462189 Fax: +44 (0) 1667 462611
Contact: William Campbell Vegetable Production Manager



Mid Coul Farms, Culblair Farm, Dalcross, Inverness IV2 7JJ

This unit was constructed in 2008. Unit is design to take 4 rows on a bed





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