Nova Scotia which served as a point of introduction for new cultivars. As a tribute to his achievements, in 1988 Don was inducted into the Atlantic Agriculture Hall of Fame.

In addition to his scientific accomplishments, Don served as a member of the executive of the American Pomological Society, the Canadian Society for Horticultural Science, and the Rhododendron Society of Canada.

No outline of Don's interests would be complete without a mention of his breeding and evaluation of rhododendrons and azaleas. This work began in 1952 and resulted in the release of 13 varieties and the development of breath-taking display gardens that attract thousands of viewers every year. Don has had an opportunity to more fully enjoy these plants since his retirement in 1983. Despite suggesting that each year's crosses will be his last, Don has continued to dream up intriguing combinations and he makes a few choice crosses each year. Undoubtedly this will continue, for Don's benefit and the benefit of northern gardeners.

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'Algonquin' Red Raspberry

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Abstract

'Algonquin' is a new red raspberry cultivar released from the breeding program at the Agriculture Canada Research Station, Vancouver, British Columbia. The cultivar, which is from the cross of 'Haida' x 'Canby' was originally released in 1984 as germplasm, designated BC 72-1-7. This had particular interest in breeding programs because of homozygosity for the gene giving resistance to the North American vector of the raspberry mosaic virus complex. In recent years 'Algonquin' has been widely tested in eastern Canada where it produces high yields of fruit with good processing qualities. It has also performed well in Denmark and New Zealand. The cultivar is recommeded for trial in regions in which low winter temperatures may limit the use of some cultivars. It may also be of interest in regions in which there is a lack of winter chilling.

'Algonquin' is a red raspberry cultivar from the breeding program at the Agriculture Canada, Research Station, Vancouver, British Columbia (BC). The cultivar was tested extensively as BC 72-1-7, which was released in 1984 as germplasm (7). This was described as having a unique combination of resistance to several pests as well as desirable horticultural traits that would be useful in breeding programs. Of particular interest was its homozygosity for gene Ag1, which confers resistance to *Amphorophora agathonica* Hottes, the North American aphid vector of the raspberry mosaic virus complex. Its use in breeding programs subsequently eliminates the need for screening for aphid reaction since all segregants are resistant. BC 72-1-7 also showed some resistance to root rot, most likely caused by *Phytophthora erythroseptica* Pethyb., and to post-

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harvest rot caused by *Rhizophus* spp. Useful horticultural traits were high yield and bright red, non-darkening fruit color.

In 1984, the decision to give the selection germplasm status rather than cultivar status was largely based on two facts. First, the fruit did not separate quite as readily from the receptacle as that of the widely planted Pacific Northwest cultivars, 'Meeker,' 'Skeena' and 'Willamette' (7). Thus, it was thought that it would not be ideally suited to machine harvest which has become essential for fruit destined for processing markets. Second, fruit size was relatively small, compared to other Pacific Northwest cultivars (7) and small compared to most other selections in the B.C. breeding program; in 1987 two of these were named 'Chilliwack' and 'Comox,' respectively, and in 1990, a third was named, 'Tulameen' (6, Daubeny, unpublished). Large size is particularly desirable for fruit destined for either fresh or individual quick freeze markets (4).

Since 1984, 'Algonquin' has been tested at several sites in eastern Canada and there has been continued testing in the Pacific Northwest. It has also been tested in Denmark and New Zealand. The decision to name the selection was largely based on its performance in three Ontario trials, located at Simcoe, Vineland, and New Liskeard, respectively, and in a trial at the Agricultural Canada, Research Station at Kentville, Nova Scotia.

In a 1986-planted replicated trial at Simcoe, 'Algonquin' produced a higher total yield over two years, 1988 and 1989, than three other cultivars, 'Comet,' 'Festival' and the purple-fruited 'Royalty,' recommended for Eastern Canadian conditions, and similar yield to two other recommended cultivars, 'Nova' and 'Boyne' (Table 1). Fruit size of 'Algonquin' was smaller than that of all of these except 'Boyne.'

In a 1982-planted unreplicated trial at Vineland, the selection produced high yields over a 3-year period with a fruit size comparable to that of 'Boyne' or 'Festival.' In a 1986-planted, unreplicated trial at New Liskeard, 'Algonquin' produced higher yields over a 2-year period than 'Festival' and 'Nova' but lower yields than 'Boyne' and 'Comet.' 'Algonquin' fruit size was comparable to that of the other cultivars.

In Ontario, 'Algonquin' has been highly rated for its processing quality. In comparison with 22 other cultivars and selections, including the recommended cultivars for Ontario, and 'Willamette' and 'Meeker,' both of which are recommended for processing in the Pacific Northwest, it rated highest for Individual Quick Freeze, fourth as a sugar packed (3 + 1) frozen pack and fourth as a canned product (3).

In the Nova Scotia trial, 'Algonquin' was noted for its attractive fruit and high yield potential.

At the Institute of Pomology, Arslev, Denmark, 'Algonquin' has produced

Table 1. Yield and fruit size of 'Algonquin' and other red raspberry cultivars at Simcoe, Ontario.

	Yield (t/ha)[z]			Size (g/fruit)		
Cultivar	1988	1989	Total	1988	1989	Mean
Algonquin	8.3	12.6	21.0	1.8	2.1	2.0
Boyne	8.2	9.8	18.0	1.8	2.0	1.9
Comet	4.8	4.5	9.3	2.1	2.5	2.3
Festival	2.6	7.1	9.9	2.3	2.6	2.4
Nova	9.3	8.7	18.0	2.4	2.8	2.6
Royalty	6.5	9.3	15.8	3.2	3.3	3.2
LSD 1%	4.7	5.5	4.3	0.4	0.4	0.3

[z]Based on 4 replicates of 5 plants per plot.

high yields of good quality fruit with fresh market potential.

At the Riwaka Research Station, New Zealand, 'Algonquin' has shown good bud break which is indicative of low chilling requirement in the New Zealand environment (8). It is thus anticipated that the cultivar will be a useful parent for this trait and also for good fruit quality.

At Abbotsford, the fruit of 'Algonquin' has consistently been somewhat difficult to remove from the receptacle. This has not usually been observed at the Washington site and has not been observed at the Ontario, Nova Scotia, Denmark and New Zealand sites. Thus, it is not anticipated that it will be difficult to machine harvest 'Algonquin' at any of these locations.

The continued testing of 'Algonquin' in the Pacific Northwest has confirmed many of the original observations on plant and fruit traits and reactions to diseases. However, its reaction to raspberry bushy dwarf virus (RBDV) is an exception. In plots at the Washington State University Puyallup Research and Extension Centre where there is a high frequency of RBDV (9), it has tested positively for the virus. It has not tested positively at Abbotsford, B.C., the site of the Vancouver Research Station test plots. In recent plantings at Puyallup, the site where the original root rot reactions were observed, 'Algonquin' has been less susceptible to the problem than 'Skeena' and comparable to 'Willamette' in reaction. 'Skeena' is recognized as having a high degree of field susceptibility to root rot (4). The susceptibility of 'Algonquin' to cane *Botrytis*, caused by *B. cinera* Pers. ex. Fr., was confirmed at Abbotsford (5).

'Algonquin' has consistently been winter hardy at all the northern hemisphere test sites; its parents, 'Haida' and 'Canby,' are also recognized for their hardiness (2).

'Algonquin' is named after a large group of closely related Indian Tribes, in Eastern Canada, for which a well known Provincial Park in Ontario is named. The choice of the name is considered appropriate because of superior performance of the cultivar at the Ontario test sites.

'Algonquin' is recommended for wide scale testing. It may be particularly useful in regions in which low winter temperatures may limit the use of some cultivars. It may also be useful in regions in which there may be a lack of winter chilling.

'Algonquin' has been characterized by isoenzyme analysis (1) and its growth traits have been described in the germplasm release (7).

The names of growers with certified 'Algonquin' plants will be supplied upon request.

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