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1. INTRODUCTION

The strawberry cultivars grown across Canada were the same as those grown in the Northern United States until the 1930s (Darrow, 1966). The discovery in 1923 of the chance seedling, which became 'British Sovereign', changed this situation in British Columbia. This cultivar predominated in the Province from the 1930s until the early 1960s, about the same time as cultivars from the Eastern Canadian breeding program became important in the Maritimes and throughout Quebec and Ontario. Ironically, a cultivar from Washington State, 'Northwest', replaced 'British Sovereign'. Subsequently, 'Totem' from the British Columbia program replaced 'Northwest' in the 1970s. 'Totem' remains the predominant cultivar in British Columbia and throughout the Pacific Northwest. It has been widely used as a parent in breeding programs in many parts of the world.

Several other cultivars introduced from the British Columbia program have had minor impact. 'Agassiz' introduced by Drs. J.A. Freeman and T. Anstey was briefly important in the late 1950s and early 1960s, and was noted for its winter hardiness. Dr. H. Daubeny then released 'Sumas' after 'Totem' and it has endured in a small way as a cultivar for early fresh market. Its soft, high quality fruit is susceptible to fruit rot. Plants are vigorous and have winter hardiness and some red stele resistance. Several recent releases, including 'Whonnock' and 'Nanaimo' have good fruit qualities but are only grown on a limited scale.

At the same time, the predominant cultivars all through Eastern Canada emulated from breeding programs in the region. These were 'Redcoat', 'Cavalier', 'Guardman', and 'Grenadier', all introduced in the 1960s by L.P.S. Spangelo (AAFC, Ottawa) and then 'Veestar' by Dr. C.L. Ricketson (Horticultural Research Institute of Ontario, Vineland) in 1967. 'Redcoat' rapidly found its way to many provinces due to its productivity and fruit quality. Since then, several breeding programs have been established across Canada in an attempt to develop locally bred cultivars resistant to major pests and diseases and adapted to our cold northern climate. The need for local tolerant or resistant cultivars is based on the presence and severity of local diseases and races specific to that region. Most of the current strawberry breeding programs try to incorporate one or multiple resistance genes and development of resistant cultivars is considered the best method of disease control. However, genetic resistance requires continuous effort, since new races of disease may develop due to the instability of single gene resistance or the misuse of pesticides to control the diseases.

2. IMPACT OF THE CANADIAN BREEDING PROGRAM

Canadian strawberry breeders have contributed significantly to the development of strawberry cultivars adapted to a wide range of environments from west to east. The fact that no one cultivar dominates across the country, reflects the regional adaptation of the strawberry. Nevertheless, all of the breeding programs have had common objectives, e.g. disease resistance, ease of harvest, high fruit quality, firm fruit, and a uniform, medium-red interior and glossy non-darkening red exterior with good shelf-life. Large sized fruit is also important for increasing harvest efficiency. Flavour, of course, is always a major consideration. Basically, color and flavour traits are what distinguish Canadian-bred cultivars from the ubiquitous California-type cultivars that continue to flood the Canadian markets.

Canada is fortunate to have some of the best growing conditions in the world for producing high quality, flavourful strawberry fruit in widely separated regions; starting in the west with coastal British Columbia, going east to southern Ontario and Quebec, and on to the Annapolis Valley of Nova Scotia (Table 1). Each region has unique problems but some are common to all regions, e.g. red stele root rot (*Phytophthora fragariae* var. *fragariae*), fruit rot (*Botrytis cinerea*), two spotted spider mite (*Tetranychus urticae*) and various species of weevils. Other problems appear to be more limited to certain regions, e.g. Verticillium wilt (*Verticillium albo-atrum* and *V. dahliae*) in Quebec and Ontario, winter damage more likely in Eastern Canada and various aphid-transmitted viruses more likely in British Columbia. The continuing success of the Nova Scotia cultivars is at least partially due to red stele resistance.