

Observations on "Wallace" trefoil

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The "Wallace" ecotype of birdsfoot trefoil that was found by Mr. J.E. Shuh, former Agronomist with the N.S. Department of Agriculture in the early 1950's and multiplied by Mr. J.E. Langille of the Nappan Experimental Farm is still flourishing in the abandoned field in which it was first found. The field is on the east side of the highway 368, about 100 meters south of the intersection with the sunrise trail (Highway, No.6). Trees in this field are now 40 to 50 years old and much of the area not grown up in trees is covered with alder bushes, yet trefoil still persists well in open areas within this field. When the field was first noticed in the 1950's, Mr. Shuh estimated that at least 20 years must have passed since the field was last hayed. He also speculated that the original seed may have arrived on some material that was delivered to a blacksmith shop that was located near this field.

Although the "Wallace" trefoil sets lots of seed each year and some of this seed was picked off and spread on another old pasture across Highway 368, very few plants are to be found in nearby fields. Some established in the ditch on the west side of Highway 368 and an occasional plant has been found in the field on the west side of that highway, which is an infrequently grazed old pasture. Plants observed in that field have not been found when I looked again one or two years later. Last summer I observed a roadside patch on the south side of route 6 about 500 meters east of the field in which Wallace trefoil has persisted. This appears to be the same ecotype as in the old field. I searched around a church and in a churchyard between the field and the new roadside patch but could find no trefoil plants. This contradicts my supposition that trefoil may establish if the soil is disturbed because there are several disturbed areas around the church and churchyard including one area where 20 to 30 centimeters of topsoil had been scraped off and another where soil had been piled. We haven't looked in detail at the soil other than to note no obvious difference between the Wallace trefoil field and the surrounding area. The field itself is classified as Queens imperfectly drained sandy clay loam. Some of the adjacent areas are classified as Debert sandy loam so one might guess that clay content in the soil could be associated with trefoil persistence.

However, the roadside areas where trefoil has spread do not have added clay. If anything was added, it was gravel and road salt.

A selection out of Wallace multiplied at Nappan has been widely tested throughout the Atlantic Provinces. The material collected for this multiplication, distributed as Wal-74, was prostrate or semi-prostrate in growth habit and had reddish or purple stems. The material collected produced almost 2000 seedlings. Selection was carried out on this for vigor, winter hardiness and seed production, but performance of the selected material and of the results of a further cycle of reselection that is distributed as Wal-78 does not indicate improvement resulted from this selection. Although it does not appear equal to Leo or Empire in ability to survive severe winter conditions, it appears to persist when weeds or volunteer grass smoothes out most other strains or when it is tested in grass mixtures. Yields of Leo and Empire are generally higher than for Wallace in trials in our region, particularly if we test pure stands of trefoil or if we get severe winter injury, yet Wallace persists and produces quite satisfactory yields in these trials. The Wal-74 selection performed well in trials at St. John's West, Newfoundland.

My conclusion is that the Wallace ecotype is a source of germ plasm with some unique properties that some breeder may be able to use to develop trefoil better adapted to our cool-moist conditions under which trefoil is so frequently smothered out by volunteer grasses and weeds.

In addition to the Wallace selection, an ecotype found by Mr. Bob Bennett at West River, Antigonish Co., has been multiplied at Nappan as Wes-74 and a later selection as Wes-78. This strain also performed well at St. John's West.

A more recent find by Mr. Paul Grimm near Windsor, N.S. is also being multiplied at Nappan.