Contemporary researchers who have described the economy of the southwestern Ojibwa\(^1\) during the 19th century frequently mention the presence of gardens and garden crops. However, with a few notable exceptions, little attention has been paid to the full significance of horticultural gardens within the Ojibwa economy.

Hickerson (1967:50) has argued that among the Lake of the Woods Ojibwa commercial trade with the Northwest Company and Hudson's Bay Company was the primary focus of gardening for the first 20 years of the 19th century. Although some garden products were used for subsistence, horticulture was said to have disappeared with the cessation of competition between these companies in 1821. Hickerson asserted that in regions further to the south gardening remained present at a limited level but that it was not a major activity:

At the village locations, the inhabitants of the villages carried on several activities: wild rice and maple sugar production, fishing, in some places gardening, berrying, and limited hunting were the most important for food production. . . . These pursuits underlay and made possible a sedentary summer life, thus permanency of residence on the lake shores and along certain rivers affording arable bottom lands. But these pursuits were not alone sufficient to sustain life. The hunting of hoofed and furred game was the primary

\(^1\)Editor's footnote: Although the author and the Anishinabe he works with prefer the spelling “Ojibway”, the style sheet of the Papers of the Algonquian Conference specifies the spelling “Ojibwa”.

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focus of the winter economy and the most important determinant for critical features of the sociopolitical organization. (Hickerson 1962:62)

In Hickerson's analysis the winter and summer economies of the Southwestern Ojibwa were highly differentiated. Thus the occasional summer gardens were presumed to have had little influence upon the dominant winter economy. In contrast, it will be argued here that warm-weather activities such as gardening, and cold-weather activities, such as trapping, were interrelated in a well-integrated seasonal round of subsistence activities.

Recently, more research has been done and as more of the ethno­historic record has become available, scholars have determined that horticultural activity among the Ojibwa of the boundary waters and the Upper Mississippi was more widespread and pervasive than had been previously thought (e.g., Moodie and Kaye 1969, 1986; Waisberg 1979, 1984). These scholars have noted that 19th-century horticultural activity spread rapidly from an initial locus on Netley Creek, near the mouth of the Red River, in 1805 (Coues 1965(2):448) to Lake of the Woods (James 1956:190-191) and Rouseau Lake (Miles Macdonell, cited in Moodie and Kaye 1969:517), to Red Lake (Nute 1923:38), and to the Upper Mississippi villages (Mason 1958:328). Throughout the region gardening continued to be important to some Ojibwa long after 1821.

While there is evidence of prehistoric horticulture on the Red River near present-day Lockport, Manitoba (Buchner 1985) and references to corn at Leech Lake in 1794 (Fox 1909a:570), the rapid spread of gardening among the Ojibwa of the boundary waters and Upper Mississippi Ojibwa after 1805 appears to have been a distinctive development. Although the adoption of horticulture by many Ojibwa families can be related to their involvement in the European fur trade, it would be inaccurate to suggest that Ojibwa horticulture was dominated by intrusive Europeans. Instead, there is every indication that horticulture developed in accord with native needs and perceptions rather than European needs even if they did interact within the sphere of fur trade and missionary activities.

In fact, some observers of Ojibwa horticulture have tended to produce rather biased descriptions. Thus a missionary's letter describing Ojibwa farming at Red Lake in 1849 can be seen as a rationalization of missionary interests:
But suppose they are told that cultivating the ground is a better way to gain a subsistence, and they make up their minds to try it. They know nothing about it. But they must in the first place clear their land — they have nothing however, to do it with but their tomahawks, and where there is good soil it is pretty heavily timbered. This would be rather a discouraging prospect to a man ever so well acquainted with the business. But suppose they persevere and cut off their timber — they have nothing to draw off the logs with — for they have no domestic animals except dogs, and no way to obtain them, and if they once had them they have no means of keeping them. Their only alternative would be to cut their timber small enough to carry together by hand, and when this is accomplished they have no means of breaking up their ground. Their only substitute for team and plow would be a hoe with which to dig up their ground; but hoes they have none, and no way to get them, except wooden hoes which they sometimes make, by finding a tree from which a limb grows out about the right shape for a handle — they then cut off the limb for a handle and then cut into the body of the tree above and below the limb, and split out a chip, which with a tomahawk and knife, they work out for the blade of their hoe, thus making hoe and handle of one piece. But when they have surmounted all these difficulties and dug up their ground, they have no seed and no way to obtain it. And by the way they must hunt and fish every day for present subsistence. And now is it wonderful that they do not change their habits? Any one can see at a glance that it is next to impossible for them to do so until they are assisted. (Nute Mss., Box 14, J.P. Bardwell to H. Cowles, 30 July)

A significant body of references directly contradicts the rather extensive citation above. For example, the Ojibwa at Red Lake had been involved in horticultural activity since at least 1807 (Nute 1923:38). During the winter of 1842 the Red Lake Ojibwa were reported as supporting 50 families from other bands with produce from their gardens (Mittelholtz 1957:17). By 1848 this group had 150 acres in garden production (Nute Mss., Box 14, Second Annual Report of the American Missionary Association). Clearly Bardwell was promoting a full-time sedentary farming economy, which the Red Lake Ojibwa did not practice, and ignoring the diversified economy based upon gardening, hunting, and fishing, which they did practice successfully.

Waisberg (1979:6; 1984:122–123) has argued that a primary objective of the Boundary Waters Ojibwa economy was to maintain a diversified subsistence base, and that this objective was accomplished through short-term shifting between alternative resources. The same argument can be applied to the Ojibwa of the Upper Missis-
sippi region. Thus in 1826, when record high water indicated an unfavourable prognosis for a successful wild rice harvest, the Boundary Waters Ojibwa increased their planting activity (HBCA B.105/a/11, fo.36d). Such observations are particularly significant in view of a possible complimentary relationship between the water requirements of wild rice and corn. In the Annual Report of the U.S. Commissioner of Indian Affairs for 1864, A.C. Morrill reported that:

They planted their usual gardens, amounting among the Pillagers and Winnibigoshish Indians to three hundred acres, with assistance rendered by myself in ploughing and furnishing seed at an increased cost over former years, from scarcity and high price of labor and seeds. Owing to excessive dryness of the spring and early summer their supplies from this source will not be as large as usual, but the deficiency is more than made good by the very large rice crop which they have just gathered, and which they will garner for use in mid winter, . . . (H.ex.doc. 1(38-2)1220).

Reports of garden failures are seldom recorded in the ethnohistoric record. When Schoolcraft asked the Ojibwa at Cass Lake about their gardens in 1832:

We were assured that the corn crop was always relied on, and that seed corn is preserved from year to year, and has not been known to fail. (Mason 1958:21)

However, the journals and correspondence of fur traders, missionaries, and government officials are replete with accounts of failed wild rice harvests. These failures were usually attributed to high water. The Minnesota Department of Natural Resources has estimated that, under contemporary conditions, during an average four-year period the wild rice harvest can be expected to fail once and to produce one bumper crop and two poor harvests (Steeves 1952:124). Thus the unusual year in which garden production failed due to excessive dryness would be generally compensated for by an exceptional wild rice harvest. It should be noted that this situation differed from the post-treaty settlement period when Euroamerican dams created artificially high water levels which destroyed both gardens and wild rice crops (PAC, RG 10, Vol. 3880, file 92840; H.ex.doc. 247(51-1)2747, p. 20).

This emphasis upon a diversified economy and short-term switching does not imply a totally random opportunism. Numerous refer-
ences to the caching of corn and wild rice in the ethnohistoric record (HBCA B. 105/a/11,f. 36d; D. 4/120,f. 21–21d) and early ethnographic descriptions (Densmore 1979:40; Hilger 1951:149–150) indicate planning for long-term needs. It is argued here that decisions made by the Ojibwa concerning summer and fall activities such as gardening or the gathering of wild rice had important consequences for the conduct of winter trapping activities.

Winterhalder’s (1980) argument that successful trapping of small fur-bearing animals by Cree-Ojibwa hunters requires a reliable food resource is useful in regard to understanding Ojibwa switching practices. Winterhalder stresses the importance of snowshoe hare population cycles in determining Cree-Ojibwa fur production to the north (1980:872–873); however the Boundary Waters and Upper Mississippi Ojibwa developed a more diversified resource base. By the early 1800s this resource base included sturgeon fisheries, wild rice gathering, and riverine gardens, as well as the hunting of large and small game animals.

Winterhalder has observed that the trapping of small fur-bearing animals tended to produce low energy yields. Although the pelts of lynx, fox, marten, mink, fisher, and otter were highly valued trade items, they represented little food value for the native trapper. On the other hand, bear and beaver, which also had valuable skins, represented a great amount of food value to Ojibwa trappers (Buchner et al 1980:41).

Of importance in this respect is the relationship in time between the widespread adoption of horticulture by the Ojibwa during the first decade of the 19th century and the beaver pandemic reported by Tanner (James 1956:88–89). Assuming that fur trade records reflect actual harvests of certain species by the Ojibwa, a review of the Lac la Pluie District returns (HBCA B. 239/h/1–6) indicates that beaver harvests did not recover significantly until about 1864. On the other hand, bear returns do not indicate a corresponding increase in harvest rates to compensate for this decline. During this period the harvest of low energy yielding fur-bearing species continued.

It can be argued that some form of additional energy resource was required to support trapping activities. Winterhalder (1980:872–873) has noted the high energy capture rates which can result from snaring snowshoe hares during years of abundant populations. These animals were present in the Upper Mississippi and Boundary Wa-
ters regions during the 19th century. Unfortunately, snowshoe hares are subject to periodic population fluctuations of extreme severity (Meslow and Keith 1968) making them predictably unreliable as a subsistence resource about every ten years. This situation has been commented upon by Waisberg (1975). In addition, exclusive reliance upon low fat/high protein rabbit meat may result in a debilitating and perhaps fatal nutritional disorder known as nephritis (protein poisoning) referred to by some northern groups as “rabbit starvation” (Buchner et al 1980:39; Speth and Spielmann 1983:3-4).

The reserving of cached corn and wild rice for winter consumption would have provided the Ojibwa with a more nutritionally balanced diet. Although an adequate diet could have been achieved through the increased utilization of higher fat content animal species, such as beaver and bear, it has been noted above that this adaptation is not evident in the Hudson’s Bay Company fur returns for much of the 19th century. Furthermore, the use of cereal products to supplement lean meat winter diets may be a more effective subsistence strategy for hunting/gathering groups. To quote from Speith and Spielmann’s article on hunter/gatherer subsistence strategies:

In light of the greater protein-sparing capacity of carbohydrate compared to fat, and the higher essential fatty acid content of many plant foods, hunter-gatherers, when possible, may place equal or greater emphasis on building up storable carbohydrate reserves during the fall than on hunting, particularly in areas where adequate supplies of fat cannot be reliably produced . . . Thus, we propose that higher quantities of carbohydrates will be included in hunter-gatherer diets than would be expected given the relative availability of carbohydrate and protein in these environments . . . Limited cultivation by hunter-gatherers has also been documented . . . Such cultivation is often sporadic and does not approach the efficiency of full-time horticulturalists. Little research has been conducted concerning the significance of these limited amounts of cultivated carbohydrates in the hunter-gatherer diet. The argument presented here would suggest that this desultory cultivation is a buffering strategy which provides a backup source of carbohydrate during seasons in which lean meat becomes an increasingly large proportion of the diet. (1983:20-21)

Corn and wild rice both contain large amounts of carbohydrates (Anderson 1976:951).

Fur trade records and other accounts are quite uniform in linking a shortage of stored provisions among the Ojibwa with prospects of
poor fur returns. The failure of the wild rice harvest is frequently mentioned in this regard. J. McLaughlin's report for the Lac la Pluie District in 1822-1823 is typical of these references:

When Rice fails we never have any hunts of consequence . . . The trade was very poor this last winter; the water was too high in the Fall to work Rats, and there were no Martens, even if there had been any the Indians would not have been able to hunt them from the want of provisions. (HBCA B. 105/e/2, fo. 20-21d)

The ethnohistoric documentation suggests that the Ojibwa evaluated the subsistence use of cereal products as being more important than commercial trade in these products.

When environmental conditions threatened particular resources, such as the rice crop in 1826, the Ojibwa tended to withhold provisions from commercial sales and retain them in caches for subsistence use (HBCA B. 105/a/11, f. 36d; D. 4/120, f. 21-21d). The same pattern was apparent in 1828 when high water destroyed the rice crop. Only highly valued trade goods or liquor could occasionally induce them to trade these caches. According to J.D. Cameron's journal:

The water was again extremely high above Lake Ounipique particularly within the American Territories, from which not a grain of rice was procured . . . From Plantation Island we got 58 Bushels of very bad corn which is all the provisions we could get from the Indians. Sturgeon has entirely failed in this river. The Indians made none for themselves, nor did they trade a mouthful with the traders. I could give Mr. McMurray only half the quantity that was required for his post (Bois Blanc) . . . I gave no grain to Clouston Altho' he always had a share for White Fish Lake. Mr. Bouck got only ten kegs which is half the usual allowance. However He stands a pretty good chance of getting as much more from his Indians, as they have all some corn hid for themselves, which they will no doubt trade in the first drunken frolic they will make either with Bouck or the Americans. (HBCA B. 105/a/13, f. 1d)

Other observers at different locations have also linked the provisions trade to surplus production. Thus William Johnson at Leech Lake in 1833 stated that most lodges had a surplus of ten sacks of corn for sale (Fox 1909b:181). Bardwell commented in 1848 that several families at Red Lake wanted to sell their surplus corn which had not been consumed the previous winter (Nute, mss, Box 14, 2nd Annual Report of the American Missionary Assn).
Gardening was a major activity at Red Lake where wild rice is relatively uncommon (Sherman 1962:67). However for most of the bands elsewhere, wild rice was important to all, but only some families planted gardens. Thus during the so-called "starvation years" from 1848 to 1851, when a wide range of subsistence resources failed, the corn crops at Lake of the Woods and elsewhere proved essential to the survival of many other Ojibwa groups. According to William Sinclair at Fort Frances in 1849:

... the water is much higher than when you passed in short- during my long sojourn in this part of the country I never saw it so high. The rice grounds are flooded no hopes of a single grain this year so that we will be under the necessity of a great deal of time in looking out for provisions in some shape or other. I have taken the precaution to provide the Establishment with some Pemican for the most needful duty such as running after Indians, Packeting etc. Business cannot be conducted when the provisions are scarce and has to be provided for daily. With the exception of potatoes, our Farm crop has failed, the wheat is also spoiled by rain I may get a little corn in Lake of the Woods but so many starving Indians are gathering there that very little will come to our share. Fish is very scarce, all these untoward circumstances makes things look gloomy (HBCA D. 5/26,fo. 194-195; emphasis added. See also D. 5/29,fo. 297 and D. 5/31,fo. 383).

It should also be noted that during this period the snowshoe hare population collapsed (HBCA D. 5/28,fo. 211) and also bison were driven west from the forest prairie interface near Red Lake by Red River hunters (N. Kittson to Go. Ramsey, 18 Feb. 1850, U.S. Office of Indian Affairs, Minnesota Superintendency Records).

In conclusion it can be argued that Ojibwa horticulture spread rapidly through the Boundary Waters and Upper Mississippi regions partially as an adaptation which was favourable to a hunting and gathering economy characterized by short-term switching among alternative resources. During normal years of subsistence resource availability, corn and other garden crops were used by some Ojibwa to subsidize the trapping of low food value but commercially important fur-bearing animals. In contrast, traditional expectations of hospitality and generalized reciprocity would have forced families with stored garden produce to share with other less fortunate families during periods of general subsistence resource collapse. At such times, stored garden produce would have been insufficient to support trapping activities for all of the dependent parties. During such peri-
ods of general resource collapse the Ojibwa were unable or unwilling to maintain their normal levels of commercial trade in country foods to fur traders.

Although, the relationship between subsistence needs and Ojibwa trapping activities has been stressed in this article, other influences may have affected their decision to adopt limited horticultural production. Thus there is a need for continued research. The role of commercial production has already been mentioned. However, other factors such as pressure by European agents of change to adopt a sedentary lifestyle or the stresses engendered by an increasing population base (Dawson 1870) need to be considered as well².

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