of as the "root," but the true roots are comparatively slender organs arising from the stem, especially at some distance behind the white-tipped growing point. The underground stem contains very large quantities of starch, which is manufactured in the aerial portions of the plant and transferred to the stem. This starch is utilized in the production of fresh underground-stem development, and especially for the maintenance of the young fronds until such time as they uncurl. The underground stem gradually dies back from its older end, but considerably less slowly than new growth is produced at its growing points.

It will be noted that the development of the underground stem of fern is analogous to that of the ordinary Californian thistle; and the plant when once established can spread over a very large area of ground in a comparatively short space of time. However, there is an extremely important difference between the underground stem of fern and the underground stem of Californian thistle. From any portion of the underground stem of the thistle, especially if cut, buds can be developed, and each cut portion can thus give rise to a separate plant. When the fern-stem is cut the case is very different, and it is only those portions that have a frond developed on them or possess a growing point that can develop into separate plants. Any portion of the stem devoid either of a frond or of a growing point will die when cut in pieces. This fact—an important one—explains how ploughing or disking fern will thin it out considerably, while the same treatment on Californian thistle will only increase the vitality of the plant.

Another extremely important character of fern is the fact that if the frond is cut no further growth of that particular frond can take place. A fresh frond has to be developed from below the base of the cut one, and in this operation, again, a great deal of the reserve food in the underground stem is employed. It is thus seen that the whole of a frond of fern, no matter how large or small it may be, is merely a single leaf, and this fact has an immense bearing on successful eradication.

A further character of New Zealand bracken is that it is what it is termed a light-demander, and the growing of a crop that completely shades it will cause its early extinction. This point is not of any value so far as the average farmer is concerned, but from a forestry standpoint it is of especial significance. The fronds, however, have a great power of elongation, and in moderately shaded forests and on their outskirts the fronds, in their efforts to reach the light, may attain a height of 20 ft. or more before they uncurl. Such growth, however, is an immense tax on the reserve food-supply, and death rapidly occurs unless the efforts