sea beaches, where it is thrown up by storms in prodigious quantities. It can also be collected in boats from rocks and from floating masses not far from the shore. There are many varieties; some are quite small, others attain large proportions, but all are valuable, though naturally differing somewhat in composition.

Seaweed is essentially a potassic fertilizer, being specially rich in potash, but it also contains notable amounts of nitrogen and other elements of plant food, so that it might be termed a complete fertilizer.

ANALYSES OF SEAWEEDS COLLECTED ON THE ATLANTIC SEABOARD.

| | Fucus furcatus. | Fucus vesiculosus. | Ascophyllum nodosum. | Porphyra laciniata. | Laminaria longicruris |
|---|---|---|---|---|---|
| Water | 63 49 | 88 29 | 75 14 | 79 42 | 88 30 |
| Organic matter | 27 93 | 7 61 | 19 30 | 15 15 | 7 15 |
| Ash or mineral matter | 8 58 | 1 10 | 5 56 | 5 43 | 4 55 |
| | 100 00 | 100 00 | 100 00 | 100 00 | 100 00 |
| Nitrogen | 0 465 | 0 182 | 0 273 | 0 928 | 0 251 |
| Phosphoric acid | 0 108 | 0 037 | 0 070 | 1 068 | 0 131 |
| Potash | 2 025 | 0 615 | 0 619 | 0 619 | 1 546 |

Fresh seaweed is undoubtedly a watery manure, and it is this fact, no doubt—the cartage being a more expensive feature—that limits its use to those living more or less close to the shore. A part of this useless water may be got rid of by piling the seaweed on the beach for a few days before hauling to the farm. But notwithstanding its large percentage of water, seaweed compares very favourably, weight for weight, with barnyard manure, and it has this additional value that it brings to the farm no weed seeds or insects or fungus pests.

The essentially potassic character of seaweeds is well brought out by the analyses given, but it will also be noted that they are especially high in nitrogen. The differences in composition between the varieties may in part be accounted for by the stage of growth or maturity at the time of collection, and in this connection it is interesting to note that, for several varieties, collections made during the winter have shown a higher potash content than samples taken in summer.

The manurial value of seaweed is greatly enhanced by its ready decomposition in the soil; it quickly decays, liberating its constituents in forms available for plant nutrition. It is quite unnecessary to compost it, though little loss would ensue if composting with muck or other vegetable matter which would absorb and hold the decomposition products is resorted to, provided the heap is not exposed to heavy leaching rains. The weathering of seaweed alone is a wasteful process. On the whole, the best plan is to apply the seaweed direct to the soil, with which it will readily become incorporated. It is essentially of the nature of a quick-acting forcing manure.

Seaweed can be employed for all classes of crops, though it will be found most useful for roots, vegetables and those with an abundance of foliage, since it is essentially a nitrogenous and potassic manure. It has given excellent results as a top dressing for grass lands, encouraging the growth of clover more particularly. Its composition suggests that if a more complete fertilizer is desired it should be supplemented by superphosphate, basic slag or bone meal. Seaweed gives its best returns on moderately light loams that are warm and moist, and its poorest on wet, ill-drained, or heavy clays.

*Liberators of Potash.*

There is no substitute for potash in agriculture. It cannot be replaced in the plant's economy by soda or any other compound. But there are certain substances