

in increasing vigor, while arable soils, from which the crops produced by manuring and cultivation are annually removed, "run out," and in time fail to remunerate the husbandman for the labor and expense of "carrying them on?" Is it not because the alimentary matter returned to the soil in the foliage is adequate to the demand made upon the resources of the soil by the crop?

The leaf is not merely a vegetable substance. It contains mineral matters, which are essential to the health of all plants; and these being derivable only from the earth, are returned to it, in part, by the decay of the foliage which rot upon the soil. Let us, for the sake of more fully illustrating the subject, present an analysis of the leaves of a well known tree — the early harvest apple — the foliage of which was collected Sept. 30th — the tree bearing fruit.

Silica.....	5.775
<i>Earthy Phosphates.</i>	
Phosphate of peroxide of iron.....	4.875
Phosphate of lime.....	1.416
Phosphate of magnesia.....	trace.
Silica.....	5.125
Phosphoric acid.....	5.339
Lime.....	16.775
Magnesia.....	36.398
Potash.....	0.075
Soda.....	13.179
Chloride of sodium.....	11.616
Sulphuric acid.....	0.060
Carbonic acid.....	0.127
Organic matter.....	15.200
	2.850
	101.005

<i>Proportions.</i>	
Water.....	54.341
Dry.....	45.059
Ash.....	4.194
Calculated dry.....	9.163

The leaf when analyzed in a mature state, is found to contain a much larger quantity of mineral matter than it affords when young, or newly formed. This is accounted for by the well-known physiological fact that the food of all vegetables — trees not excepted — is taken up in a state of solution. This food passes to the leaves, where it is exposed by aëriation to the action of atmospheric phenomena, and its aqueous parts evaporated, or given off, but not the substances which it held in solution. These are, in part, disseminated through the entire system, a certain amount remaining in the vascular structure of the leaf itself. These, it has also been ascertained, contain a larger proportion of mineral matter than the wood of the trunk. The dried leaves of the elm — (*Ulmus Americana*), — contain more than eleven per cent. of ashes, (earthy or mineral matter,) while the more perfectly lignified substance, or perfect wood, contains only two per cent.; those of the willow, more than eight per cent., while the wood has only 0.42; those of the beech, 6.69, the wood only 0.35; those of the European oak, 4.06, the wood only 0.21; those of the pitch pine, 3.14; the wood only 0.24 per cent.

A late American writer, in an article illustrating the value of leaves as a manurial agent, says: —

"It is very plain from these facts, that, in forests, the mineral ingredients of the soil perform a sort of circulation; entering the root, they are deposited in the leaf; then, with its fall to the earth, and by its decay, they are restored to the soil, again to travel their circuit. Forest soils, therefore, instead of being

impoverished by the growth of trees, receive back annually the greatest proportion of those mineral elements necessary to the tree, and besides, much organized matter received into the plant from the atmosphere; soils, therefore, are gaining instead of losing. If owners of parks or groves, for neatness' sake, or to obtain leaves for other purposes, gather the annual harvest of leaves, they will, in time, take away great quantities of mineral matter, by which the soil ultimately will be impoverished, unless it is restored by manure.

Whenever leaves can be obtained in sufficient quantities, the farmer has within his reach the most ample resources for sustaining and increasing *ad libitum*, the productive energy of the soil he cultivates. By accumulating them in autumn, depositing them in yards and other enclosures where they will be in a situation to become impregnated with the liquid voidings of his animals, and thus predisposed to ferment and decompose more rapidly when applied to his lands, he will secure an adjuvant, the beneficial and powerful effects of which will be obvious for years, both upon his soil and the crops it is required successively to sustain and perfect. — *N. E. Farmer.*

CONDENSED VIEW OF THE EXTENT AND RESOURCES OF THE UNITED STATES.

THE *Boston Post* has the following on the extent and productiveness of the United States and Territories: —

The thirty-one States, nine Territories, and District of Columbia, comprising the United States of America, are situated within the parallels of 10 deg. east longitudes and 40 min. west of the Meridian of Washington, and extending on the Atlantic coast from 25 deg., and on the Pacific coast from 32 deg. to 40 deg. of north latitude, and contains a geographical area of 3,306,865 square miles, being one-tenth less than the entire continent of Europe.

They contain a population at the present time of 25,000,000, of whom 21,000,000 are whites. The extent of its sea coast, exclusive of islands and rivers to the head of the tide water, is 12,669 miles. The length of 10 of its principal rivers is 20,000 miles. The surface of its 5 great lakes is 90,000 square miles. The number of miles of railway in operation within its limits is 20,000, constructed at a cost of \$600,000,000. The length of its canals is 5,000 miles. It contains the longest railway upon the surface of the globe — the Illinois Central — which is 737 miles.

The annual value of its agricultural productions is \$2,000,000,000. Its most valuable product is Indian corn, which yields annually \$400,000,000; and in surveying the agricultural productions of our country, we are not only struck with their abundance but with their great variety. Our territory extends from the frigid region of the north to the genial climate of the tropics, affording almost every variety of temperature, and every kind of grain and vegetables. Her productions range from the cold ice and hard granite of the North, the golden corn of the West, to the cotton and sugar of the South; and nearly all in sufficient quantities to supply our domestic consumption and furnish large supplies for exporta-