

excess of the requirements of growth, supply a most important item of food for man.

Various observations have been made to determine the amount of carbon dioxide which plants are capable of appropriating. The results obtained by Boussingault are among the most instructive, from which we quote the following:—

	Area of leaf.	Decomp. of CO <sub>2</sub> per hour.
Cherry-laurel....	109 sq. c.m.	3.0 c.c.
Pine.....	204 " "	1.1 "
Oak.....	224 " "	1.6 "
Holly .....	52 " "	1.8 "
Mistletoe.....	100 " "	2.0 "
or for equal areas		
Cherry-laurel....	100 " "	2.750 "
Pine .....	100 " "	0.539 "
Oak .....	100 " "	0.714 "
Holly.....	100 " "	3.460 "
Mistletoe .....	100 " "	2.000 "

In this connection it should also be noted that the presence of carbon dioxide in the air, beyond a certain limit, causes it to exert a deleterious effect. This limit is of necessity variable, but observation has shown that in those plants which are most nearly allied to the coal plants, e.g., ferns, ten per cent. is fatal, while for the majority of plants, a much smaller quantity will produce the same result. The general process thus described, constitutes one of the leading features of the so-called digestive function, and as this takes place in the leaves (chiefly), they are usually designated the digestive organs.

All the elements enumerated, except carbon, enter the roots which are specially adapted to the purpose of taking up food in a liquid form, and may therefore be designated the special organs of absorption. The power of roots in this respect, is nevertheless extremely limited with reference to their total area, being confined to a narrow tract near the extreme tips, and is accomplished chiefly through the medium of root hairs.

The fluid thus absorbed by the roots, and containing various