SOME SOIL FACTORS AFFECTING TREE GROWTH

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It is just one hundred years since Liebig, in his famous report to the British Association upon the state of organic chemistry, delivered with vitriolic invective the death sentence to the theory held by contemporary plant physiologists that plants obtain their carbon from the soil. He did it in these words, “All explanations of chemists must remain without fruit, and useless, because, even to the great leaders of physiology, carbonic acid, ammonia, acids and bases are sounds without meaning, words without sense, terms of an unknown language, which awaken no thoughts

1 Address of the retiring vice-president and chairman of the Section on Agriculture, American Association for the Advancement of Science, Columbus, Ohio, December 30, 1939.

and no associations.” How different is the state of affairs to-day, how ramshackle have become the once hallowed walls dividing the natural sciences, must be apparent when an agronomist deigns to rise before a group of horticulturists and foresters and speak on a program dealing with the physiological aspects of tree growth. Fortunately it appears now well established that both fruit and forest trees send their roots into the soil, that natural medium which until recent times was peculiarly the domain of the agronomist. Fortunately, also, the interactions of the soil and tree appear not to differ materially from the interactions of the soil and agronomic crops. In fact, except in the degree of surface manipulation involved and in the