easily, but a change in everyday use of terms describing things vital to man's welfare may be far more difficult.

"The tree is known by its fruit" forms, Biblically, the chapter slogan in a well-known book on symbiosis by Fred, Baldwin and McCoy in which they expend considerable effort to justify the use of the term "leguminous plant." Other exact writers have done similarly, until it appears generally as the common usage only by meticulous portrayers of the Leguminosae.

The terms "tree plant," "bacteria plant" and "legume plant" are not used extensively. Since "legume" is derived from the Latin "legumen" and is the correct name for the fruit or carpel only, *leguminal* is not a far call nor a supernatural one. Already we have "legumin," a vegetable casein, and "leguminous," referring to plants which produce legumes. The new word is no longer nor is it more difficult to pronounce. These many, very valuable plants which have become so well known and called by the same name which by all rights of priority and correct usage belongs to their fruit only certainly deserve greater respect and a more suitable name.

The two new words would complete a set of four very usable terms in forage or "herbage" (British) activity—leguminal, agrostal, cereal, ruderal. We would then propose definitions as follows: Plants producing legumes; grasses other than cereals; grain producing grasses; range and meadow weeds. Leguminosae and Gramineae are the two greatest plant families both in numbers as well as in value to man. Does it not appear a linguistic weakness to confuse important and valuable plant material of such immense proportion further—need the issue be beclouded longer?

Graminal includes all grasses, as does Poaceae, but "agrostal" has not yet been assigned. An agrostologist is a grass specialist; then special grasses, other than cereals, might be *agrostal* in character. "Herbal" is an anciently used qualifying word relating to all plants, just as "herbage" is the name for forage of varying classification botanically.

W. B. GERNERT

OKLAHOMA EXPERIMENT STATION

REID ON CELTIS

IN a short paper[1] describing the endocarps of a new species of Celtis from the Eocene of Réals in Hérault, France, the author states: "These endocarps mark the first known appearance of Celtis in Europe. It has been recorded from the Fort-Union (Eocene) Beds of America."

[1] E. M. Reid, *Bull. Soc. Et. Sci. Nat. Béziers,* 40: 1–8, 1936.

Fossil leaves attributed to Celtis, of which more than a dozen species have been described from many horizons in the European Tertiary, have long been known, some as early as 1850. If one chooses to ignore leaf records there are still several recorded occurrences of fruits. I have two specimens of endocarps labeled as having come from the middle Eocene at Pierrerne, Hérault, which are not dissimilar from the new species described by Reid and also much like *Celtis hyperionis* Unger described from the Miocene of Steinheim. Fruits have also been recorded from several Pleistocene localities in Europe.

If we return to America and ignore the leaf records of Celtis which range in age from the late Cretaceous to the Pleistocene, there are about ten different species based upon endocarps and found at Eocene, Oligocene, Miocene, Pliocene and Pleistocene horizons. Eastern Asia has furnished both leaves and fruits of Tertiary species of Celtis. In 1924 I described a characteristic endocarp from the middle Eocene of Colombia, South America, and leaves are common in the mid-Tertiary of Patagonia.

Mrs. Reid certainly stands out as one of the world leaders in her knowledge of carpological fossil material, and it is a great pity that she does not think it worth while to acquire some slight acquaintance with the literature of paleobotany.

EDWARD W. BERRY

THE USE OF YEAST OR OTHER FUNGI FOR VITAMIN B_1 TESTS

THE suggestion originally made by the writer[1] in 1919, and almost simultaneously by Bachmann,[2] that a fungus organism (yeast) could be used in testing for "vitamin B" has been revived in recent years by suggested quantitative tests for vitamin B_1, using yeast[3] and Phycomyces.[4]

It was shown in the writer's laboratory in 1930[5] that the crystalline vitamin B_1 of Jansen and Donath had a tremendous influence on the growth of certain yeasts, and hundreds of unpublished and published[6] experiments in our laboratory have since confirmed this observation. However, at that time (1930), it was also shown that *another fraction not possessing high vitamin B_1 activity was twice as potent as the purified vitamin* so far as yeast growth stimulation was concerned. In

[1] R. J. Williams, *Jour. Biol. Chem.,* 38: 465, 1919.
[2] F. M. Bachmann, *Jour. Biol. Chem.,* 39: 235, 1919.
[3] A. Schultz, L. Atkin and C. N. Frey, *Jour. Amer. Chem. Soc.,* 59: 948, 1937.
[4] W. H. Schopfer and A. Jung, Ve Congrès International Technique et Chimique des Industries Agricoles. Schéveningue. 1937. Extrait des *Comptes Rendus,* p. 22.
[5] R. J. Williams and R. R. Roehm, *Jour. Biol. Chem.,* 87: 581, 1930.
[6] R. J. Williams and D. H. Saunders, *Biochem. Jour.,* 28: 1887, 1934.