Tilman, D.: **Plant Strategies and the Dynamic and Structure of Plant Communities.** - Princeton University Press, Princeton 1988. 360 pp.

The causal understanding of the structure and dynamics of vegetation is a central question in plant ecology. Most of the studies done now are of a phenomenological character, without stating the actual mechanism. It is quite clear that a deeper analysis of underlying processes is inevitable for further progress.

One of the best attempts in this way was done by D. Tilman. The book starts with a short but sufficiently clear repetition of resource-dependent growth isocline theory, which was fully described in the previous Tilman's publications. The isocline approach served as a basis for a newly developed model of plant competition, which includes explicitly morphological and physiological mechanisms. The structure of the model is described in Chapter three, and many examples of its practical use are presented in the next chapters. General relations that may exist between the availability of resources, plant allocation patterns and relative growth or loss rates are presented in the original and very instructive graphs.

Much effort was devoted to the quantitative description of the dynamics of plant competition and succession (Chapter six and seven). The theory is easily understandable and well documented on many results of model simulation. An example of the application of the theory in the field studies is given in Chapter eight.

The theory of competition presented in this book is rather simplified - only the most important mechanisms are taken into account (mainly availability of resources and morphological responses of plants). The effect of environmental stresses on plants and physiological responses to them should be considered as well. But this simplification was probably necessary in the first approximation, in order to present "the simplest viable explanations for the patterns we observe", as stated in the Conclusions. From good correspondences between the predictions of the theory and the field observations we can see that it was a successful approach. A more realistic modification of the theory for its use in particular cases is easily possible.

The book is written in a very clear and concise style, with a short summary at the end of each chapter. It will be indispensable for all students and ecologists interested in the vegetation structure and dynamics.

J. GLOSER (*Brno*)

Benčať, T.: **Black Locust Biomass Production in Southern Slovakia.** - Veda, Bratislava 1989. 192 pp. Kčs 20.00.

The biomass production and structure of black locust (*Robinia pseudacacia* L.) stands of different ages (8, 27 and 49 years old) were studied in Southern Slovakia. The methods of stem profile and annual ring increment measuring, and a special method of washing out the root system by the help of high water pressure were applied to obtain the biomass data of the sample trees. For volume determinations a non-destructive way of calculations by means of coefficients was used. Dry matter data were completed by measurements of Ca, K, Mg, Pb, Na, Zn, Fe contents and flower and leaf morphology.

The booklet contains 24 photographs, 28 figures and 75 tables. It is recommended not to use the dry weight but dry mass or dry matter in the text and legends to the Figures and Tables. The book is a voluminous databook of dry matter analysis of black locust in Slovakia and is of special interest for forestry research workers.

I. TICHÁ (*Praha*)