

BOOK REVIEW

E. WESTPHAL: *Pulses in Ethiopia, their taxonomy and agricultural significance*, 263 pp., 28 figs, 72 plates, 1 table, 1 topographical chart, 204 refs, Dutch summary, indexes of common and scientific plant names. Doctoral thesis, Wageningen. ISBN 90 220 0501 I. PUDOC, Wageningen, 1974. Also Agricultural Research Reports 815. Price Dfl. 52.—

The present volume contains information for local tropical as well as world wide agricultural improvement, and may as such be regarded as a contribution to the continuing so-called green revolution. It is the first of an intended series of publications surveying the botany and agriculture of useful cultivated and wild growing plants of Ethiopia. As this country displays a great variety in its physical and biological environment in connection with a great diversity of local inhabitants applying various agricultural methods, it harbours a wealth of food plant species.

The first part of the book, up to page 46, deals with general considerations, with a chapter on the physical and biological environments in Ethiopia, covering such topics as geology, topography, climate, soils, and natural vegetation, and including a very interesting description of the types of agriculture practiced in Ethiopia.

The remaining part of the book is concerned with the taxonomical and agricultural treatment of 19 of the most important pulse crops of Ethiopia. The implications of taxonomy on the systematics of cultivated plants are considered. The use of but two taxonomic name categories is advocated, viz. cultivar (cv.) and cultivar-group (cv.-group). All Ethiopian pulses used as food, wild and cultivated sorts, are enumerated and shortly annotated. Two keys are offered, one based on general characteristics, and one on seed characters only.

The 19 pulses treated are all Papilionaceae and belong to 18 species; 11 of these belong to tribe *Phaseoleae*, notably to the genera *Cajanus*, *Canavalia*, *Dolichos*, *Mucuna*, *Phaseolus*, *Psophocarpus*, and *Vigna*, together accounting for 11 cultivated taxa; 5 species belong to tribe *Vicieae*, viz. *Cicer*, *Lathyrus*, *Lens*, *Pisum*, and *Vicia*, accounting for 6 cultivated taxa; 1 species belongs to tribe *Genisteae*, namely *Lupinus*, with one cultivated taxon; and one species to tribe *Trifolieae*, viz. *Trigonella* with one cultivated taxon.

Each treatment contains an extensive botanical description, the enumeration of synonyms and selected literature, the designation of cultivars, local names, trade names, the somatic chromosome number of Ethiopian material if known, the geographical distribution, ecology, husbandry, uses, and data on the protein content, and all this compiled for the crop in general but with special information relevant for Ethiopia. There is ample attention paid to taxonomic notes and other problems. Each taxon is illustrated by a full page line drawing showing habit and details of the plant, the seedling and the seeds. Photographs of the seeds of all taxa, including those of many cultivars, are reproduced in natural size, though it is certainly regrettable that this is not done in colour like the seeds beautifully shown on the cover plate. Special attention is given to the important role in agriculture of the species of *Phaseolus*.

In many cases valuable taxonomic information is provided, notably a contribution to the delimitation and typification of the genus and the name *Dolichos* L. versus the use of the name *Lablab* Adanson.

Particularly noteworthy is the survey and description of the main systems of Ethiopian agriculture, already mentioned above. The agro-ecological regions, based on soil types, altitude, rainfall, and the inhabiting tribes and their favorite crops, are defined. Special mention is made of the ensat-planting culture, named after the wild banana-like main crop species *Ensete* (*Musa*) *ventricosa*, belonging to the hoe-culture of tropical Africa, as opposed to the plough-farming culture in Central and Northern Ethiopia. Many types of farming are described and discussed, including the used crops, the rotation systems, etc., providing good tribal agricultural information.

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