Chapter 1

Production and Utilization

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1. INTRODUCTION


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2. THE COMMON BEAN

Among major food legumes the common bean (*Phaseolus vulgaris* L.) is the third most important worldwide, superceded only by soybean (*Glycine max* (L.) Merr.) and peanut (*Arachis hypogea* L.). However, it is not clear if the statistics for peanut refer to the pod or seed yield, and in many countries soybean is used primarily as oil and animal feed. Among the pulses (i.e., annual leguminous food crops that are harvested for dry seeds) the common bean is by far the most important (Table 1). Moreover, of over 30 different *Phaseolus* species of American origin (Debouck, 1991; see also Chapter 2 by Debouck; Delgado Salinas, 1985) although four other species, namely, tepary (*P. acutifolius* A. Gray), scarlet runner (*P. coccineus* L.), Lima (*P. lunatus* L.), and year-long bean (*P. polyanthus* Greenman) were also domesticated (Gepts & Debouck, 1991), none is as important and popular worldwide as *P. vulgaris*. The common bean is the most widely distributed, grown on all continents except Antarctica, and occupies more than 90% of production areas sown to *Phaseolus* species in the world. Present day cultivation of *P. polyanthus* is largely restricted to the highlands of Guatemala and Mexico, and *P. acutifolius* is grown from Nicaragua to the southern U.S.A. While the cultivation of *P. coccineus* and *P. lunatus* has expanded to other regions of the world including Europe, Africa, and Asia, none of the four species alone annually occupies 100,000 ha worldwide. It is estimated that the total area annually sown in the world under these four groups of cultigens may not exceed 200,000 ha.

Those who rely entirely on the FAO production statistics for dry bean must be aware that despite the separation of the American *Phaseolus* species from their African and Asiatic counterparts nearly a quarter of a century ago (Maréchal et al., 1978; Westphal, 1974) the FAO data collectors and collaborators continue to disregard taxonomic facts and combine under “dry beans” data on at least six species, some belonging to entirely different genera and of origins in different continents. For example, according to the FAO statistics India is the largest producer of dry bean (4.9 million MT in 1997) in the world. However, to the best of my knowledge, the production of the common bean of American origin (*P. vulgaris*) is not even 5% of the total for India. The same can be said for many other countries in Asia, Africa, Europe, and the Americas. On the American continent, for example, in most northern and northeastern states of Brazil (Vieira, 1988) and in Paraguay, the cowpea [*Vigna unguiculata* L. (Walp.)] predominates. Thus, the Americas are the largest common bean (*P. vulgaris*) producing region and Brazil is the largest producer and consumer in the world today. Using the FAO and USDA data, the approximate values for area harvested and production of dry bean for various regions of the world in 1997 are given in