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## THE NAMES OF SOME LEGUMES CULTIVATED IN QUEENSLAND

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### SUMMARY

The preferred botanical names of a number of legumes, based on the treatment of the genera *Dolichos*, *Phaseolus* and *Vigna* by Verdcourt, are listed and the changes from past usage are discussed.

Many introduced legumes are grown in Queensland either commercially or experimentally and more introductions are being made. Investigations have resulted in a better knowledge of some groups with a consequent change in the names which are preferred for some legumes cultivated in Queensland. Economically important groups such as grasses and legumes are likely to be intensively studied and classified more exactly than less important groups. In the family Leguminosae-Papilionaceae, Bentham & Hooker (1862) recognized 295 genera in 11 tribes, whereas Hutchinson (1964) took a narrower view and recognized 483 genera arranged in 50 tribes in the Fabaceae (Papilionaceae). Modification of Hutchinson's classification is still going on.

Recent studies in *Dolichos*, *Phaseolus* and *Vigna* by Verdcourt (1970a, 1970b) have resulted in his accepting a number of small homogeneous genera rather than the large heterogeneous ones which have proved unsatisfactory to both agronomists and taxonomists. Though Verdcourt's main object was to provide an account of the tribe Phaseoleae for the Flora of East Tropical Africa (Verdcourt 1971), he studied a range of material from Asia and South America as well as from Africa and, though there are still some unsolved problems, mainly concerning American taxa, it is recommended that his treatment be adopted and the names he has used be preferred to those currently in use for some legumes cultivated in Queensland.

### **Dolichos**

Until recently the generally accepted type of *Dolichos* has been either *D. lablab* L. or *D. uniflorus* Lam. Verdcourt (1968), however, proposed that the genus be typified by *D. trilobus* L. (*D. falcatus* Willd.). If a number of small segregate genera were then recognized this would enable the name *Dolichos* to be used for the maximum number of species, thus obviating many new combinations. Verdcourt's proposal has now been accepted by the Committee for Spermatophyta

(McVaugh 1972). Verdcourt looked at material of *Dolichos* throughout the world and distinguished several clear groupings. He concluded that if any of these groups were given generic rank then others should be similarly recognized. When the large genus *Dolichos* is split, however, difficulties arise with small satellite groups as to whether they should be treated as genera and subgenera. Some workers might believe it better to treat some subgenera as genera but their actual position is less important than the fact they be recognized at some level.

Using mainly characters of the style supplemented by pollen characters and some cytological data, Verdcourt recognized 16 genera, six of them previously undescribed; two of these, however, had previously been recognized as distinct taxa at lower ranks, and Verdcourt's splitting is not inconsistent with previous treatments of the large genus *Dolichos*.

Genera of interest to Queensland workers are: *Pseudovigna*, *Macrotyloma*, *Dipogon*, *Lablab*, and (for an endemic species) *Austrodolichos*. Changes of names likely to affect workers in Queensland are listed in the appendix.

#### Phaseolus and Vigna

There has been considerable difficulty for a long time in distinguishing *Phaseolus* from *Vigna*. Using characters of the stipules as well as the curvature of the keel, the classical method of differentiation, Wilczek (1954) and Hepper (1956) transferred some species from *Phaseolus* to *Vigna* but there are inconsistencies in their work and, on the whole, attempts to clarify the matter by redefining the distinction between the two have not been successful. At least one botanist "solved" the problem by uniting *Phaseolus* and *Vigna*, an unsatisfactory solution.

Verdcourt concluded, after comparing the type species of *Vigna* (*V. luteola* (Jacq.) Benth.) with that of *Phaseolus* (*P. vulgaris* L.), that the most reasonable solution to the problem was to recognize *Vigna* and *Phaseolus* as distinct genera rather than to unite them to form an unwieldy genus with numerous heterogeneous elements, despite many satellite groups with intermediate characters. Certain American species remained a problem. Verdcourt restricted the definition of the genus *Phaseolus* so that only *P. vulgaris* and its immediate allies were retained in the genus. Peripheral groups not fitting well into either *Phaseolus* or *Vigna* were retained as subgenera of *Vigna*.

Using mainly characters of the flower, especially the style and keel, and the stipules, with some supporting pollen and biochemical data, Verdcourt recognized seven genera, none of them new. Within *Vigna* eight subgenera were recognized, while none was recognized within *Phaseolus*. He admitted that his proposal might be argued to be merely a change from a system with a fairly well-defined *Vigna* and a "ragbag" *Phaseolus* to exactly *vice versa*. Verdcourt's system is, however, a great advance on the confusion previously associated with *Vigna* and *Phaseolus*; it opens the way for a more critical treatment of the American species of *Vigna* and therefore the names used are preferred to the names currently in use for legumes grown in Queensland.

Some widely cultivated Old World species formerly referred to *Phaseolus* are now better placed under *Vigna*, while some American species should be referred to *Macropitilium*. These are listed in the appendix. The plant cultivated as *Vigna marina* cv. Dalrymple is in fact *V. luteola*. This is evidently a case of mis-identification of introduced material.

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## APPENDIX

<i>Preferred name</i>	<i>Name Previously Used</i>
<i>Austrodolichos errabundus</i> (Scott) Verdc. . .	<i>Vigna canescens</i> C. T. White
<i>Dipogon lignosus</i> (L.) Verdc. . . . .	<i>Dolichos lignosus</i> L.
<i>Dolichos sericeus</i> E.Mey. subsp. <i>formosus</i> Verdc. . . . .	<i>Dolichos formosus</i> A. Rich
<i>Dolichos trilobus</i> L. . . . .	<i>Dolichos falcatus</i> Willd.
<i>Lablab purpureus</i> (L.) Sweet . . . . .	<i>Dolichos lablab</i> L.
<i>Macroptilium atropurpureum</i> (DC.) Urb. . .	<i>Phaseolus atropurpureus</i> DC.
<i>Macroptilium bracteatum</i> (L.) Urb. . . .	<i>Phaseolus bracteatus</i> L.
<i>Macroptilium lathyroides</i> (L.) Urb. . . .	<i>Phaseolus lathyroides</i> L.
<i>Macroptilium martii</i> (Benth.) Urb. . . . .	<i>Phaseolus martii</i> Benth.
<i>Macrotyloma africanum</i> (Wilczek) Verdc. . .	<i>Dolichos africanus</i> Wilczek
<i>Macrotyloma axillare</i> (E.Mey.) Verdc. . .	<i>Dolichos axillaris</i> E.Mey.
<i>Macrotyloma uniflorum</i> (Lam.) Verdc. . . .	<i>Dolichos uniflorus</i> Lam. ( <i>D. biflorus</i> auctt. non L.)
<i>Pseudovigna argentea</i> (Willd.) Verdc. . . .	<i>Dolichos argenteus</i> Willd.
<i>Vigna angularis</i> (Willd.) Ohwi & Ohashi . . .	<i>Phaseolus angularis</i> Willd.
<i>Vigna radiata</i> (L.) Wilczek . . . . .	<i>Phaseolus aureus</i> Roxb. <i>Phaseolus radiatus</i> L.
<i>Vigna mungo</i> (L.) Hepper . . . . .	<i>Phaseolus mungo</i> L.
<i>Vigna umbellata</i> (Thunb.) Ohwi & Ohashi . .	<i>Phaseolus calcaratus</i> Roxb.