

**LETTER TO THE EDITOR:—THE ORIGIN OF *BOTHRIOCHLOA*
INSCULPTA CV. HATCH IN QUEENSLAND**

During the last 15 years *Bothriochloa insculpta* (creeping bluegrass) has been established on at least 2 000 hectares near Rockhampton. Hardiness and ease of establishment are its main strengths, and it has shown superior establishment to other sown grasses on black soils at Emerald and near Toowoomba (Bisset and Graham 1978). This letter outlines an investigation undertaken by the author to determine the origin of the commercially available material, preparatory to its recent registration as cv. Hatch (Mackay, in press).

The histories of three long established stands of different source were first traced:

Property of Mr G. (Garney) Hatch, The Caves, near Rockhampton.—When the C.S.I.R.* Plant Introduction Station 'Fitzroyvale', near Rockhampton, was closing down in 1946, material of a number of grasses were distributed to local landholders. Mr Hatch was a recipient and he was impressed by the hardiness and vigour of one of these grasses on his farm. He progressively increased his area of it and distributed seed to interested neighbours as 'Garney's' grass (Bisset and Graham 1978).

Property of Mr G. L. Tidcombe, 'Bingham Pastures', Hervey Bay.—This stand originated 'about 1938' from materials obtained by a neighbour (Mr Ray Townsend) from the Queensland Department of Agriculture and Stock† (D.A.S.) Rockhampton, 'about 1937' (Tidcombe, pers. comm.). He grew 'Bingham' bluegrass as a pasture for more than 30 years until his dairy farm was subdivided for real estate.

Property of Mr D. Christensen, Crows Nest.—This stand arose from planting material obtained from Mr N. A. R. Pollock (who retired from D.A.S. Toowoomba in 1939) (Christensen, pers. comm.). Mr Christensen was not impressed with 'long woody runner grass' which compared unfavourably in stock acceptance to *Paspalum dilatatum* and *Pennisetum clandestinum*. It is still present but only as a hobby plot.

There were no records to indicate which accession the individual farmers received, and all were apparently unaware of the identity of their grass. Samples from each stand were determined as *B. insculpta* by the Queensland Herbarium in 1959, 1966 and 1959 respectively. Commercial material has been derived from the first and second stands.

Possible accessions

At the time when Hatch obtained his material from 'Fitzroyvale' (1946), only two accessions had been introduced into Australia as *B. insculpta*. These were C.P.I.‡ 6932 from Tanganyika in 1937, and 8603 from Uganda in 1943 (Anon.). McTaggart (1942) in a review mentions 6932 as having demonstrated adaptability to poor coastal soils in Central Queensland (presumably 'Fitzroyvale'). However, it is not mentioned in the C.S.I.R.O. publication covering the operation of this testing station (Miles 1949). Also, the establishment record cards show that 6932 failed to establish at 'Fitzroyvale' and Lawes, the only C.S.I.R. testing stations in Queensland at which it was grown (R. J. Williams, C.S.I.R.O. Cunningham Laboratory pers. comm.). It was therefore decided to disregard 6932, which left 8603 as the likely source of Hatch's material. This latter accession was included in a grazing trial at 'Fitzroyvale' (Miles 1949).

A problem was posed by the fact that the other two private stands were established several years before the introduction date of C.P.I. 8603. As well, B. Walker (D.P.I. Rockhampton) and R. J. Jones (C.S.I.R.O. Davies Laboratory, Townsville),

* Now C.S.I.R.O.

† Now Department of Primary Industries (D.P.I.).

‡ Commonwealth Plant Introduction.

expressed their opinion (pers. comm.) that Hatch's grass was more vigorous than the material with which they were familiar in East Africa.

A new lead was provided by Williams, who noted from C.S.I.R.O. plant introduction records that a specimen of C.P.I. 2965 collected from D.A.S. plots at Pink Lily, Rockhampton in 1939 was determined by S. T. Blake (Queensland Herbarium) as *B. insculpta*. This accession, introduced from Rhodesia in 1931 as *Amphilophis* (syn. *Bothriochloa*) *glabra*, was grown in plots at Lawes (McTaggart 1934), St Lucia Farm School (D.A.S.) (Winders 1936) and Fitzroyvale (Miles 1949). Miles (nursery record cards) stated that it was larger and more vigorous than 8603. Moreover, its date of introduction was early enough for it to have been the original source of material for all three early plantings. In the light of this new knowledge a search was made of early D.A.S. publications and records covering plant introduction testing at Toowoomba and Rockhampton, and also of Queensland Herbarium records.

Results of investigation

Pollock (pers. comm.) grew '*A. glabra*' in the Toowoomba nursery from stolons received from St Lucia in 1935. Christensen's name appears on a list of landholders to whom vegetative material and seeds of various grasses (no specific details) were distributed. This, then, explains the origin of Christensen's material. Additional evidence of the presence of *A. glabra* in D.A.S. plots at Rockhampton (Pink Lily) is provided by Clydesdale (1936). This must therefore be the source of Tidcombe's material.

The Queensland Herbarium specimen of 2695 collected from Rockhampton in 1939 is not available. However, a specimen from Lawes in 1934 was also determined by Blake as *B. insculpta* and is still present. A specimen of 2695 collected from Canberra plots in 1940 was also determined (*Herbarium Australiense*) as *B. insculpta*.

Living and dried plant specimens from the three early plantings, and the dried specimen from Lawes, have been examined by B. K. Simon (Queensland Herbarium) and found to be indistinguishable morphologically (Mackay, in press).

An enquiry to C.S.I.R.O. Division of Plant Industry, Canberra, revealed that an accession C.P.I. 1844 introduced in 1930 as *B. pertusa* was subsequently found to be *B. insculpta* (A. E. Grant-Lipp, pers. comm.). However, this accession failed to establish at Lawes and Fitzroyvale and can therefore be disregarded.

Conclusion

The evidence herein presented leaves no doubt that the *B. insculpta* material present in three long established stands in Queensland and now commercialized as cv. Hatch is identical and originated as C.P.I. 2695 from Rhodesia.

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