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Bibliography

Bibliography of grain legume research in New Zealand 1910–2002

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Abstract The bibliography presents 525 publications alphabetically by author on grain legume research in New Zealand covering the years 1910–2002. The index assigns entries by subject.

Keywords bibliography; grain quality; grain legume production; New Zealand

INTRODUCTION

Grain legumes have played an important part in the rise of civilisation and appear in the archeological record as domesticated plants almost as early as grains. Peas have been dated in Neolithic farming villages in the Near East at 9000–8000 B.C., lentils have been dated in deposits at 5000 B.C. in the Old World, and beans at 5000 B.C. in Mexico and 1000 B.C. in Peru (Richardson & Stubbs 1978).

The role of legumes in maintaining and improving soil fertility has been known since Roman times, but it was only towards the end of the 19th Century that the fact that they add nitrogen to the soil was identified. In New Zealand's history, pea seed was part of Marion du Fresne's cargo in 1772, beans and peas were part of Cook's cargo off-loaded from the *Resolution* at Dusky Sound in 1773 (McAloon 2002), and pease (sic) were offered as gifts to Maori in 1793 (Stokes 2002). It was in 1925 that lupins were first sown in an effort to remedy soil nitrogen deficiency in New Zealand (Claridge 1972). W. H. Wilkinson of Chertsey was the grower, and he also investigated their limitations and potential as stock feed.

The New Zealand grain legume industry is still small by world standards. In the 2002–03 year, 381 ha of peas were entered into the certification system; there were no entries for soyabean or lentils although 78 ha of the former had been grown in 2000–01 and 79 ha of the latter in 1999–2000 (AgriQuality 2003). However, peas as a process crop are increasing in area, and researchers involved in grain legume evaluation continue to state that the plants have potential to add to the New Zealand economy through export or replacement import (e.g., Hill 1991).

Although valued originally for their protein content (Baker 1978), which was of particular value in a vegetarian diet, during most of their history, grain legume seeds have suffered under such descriptions as "poor man's meat" (Heiser 1973). Legumes contain protein without fat. Some (e.g., soybeans, peanuts, and lupins) do, however, contain oils and grains such as soybean have been reported to contain 16–22% oil (Manning et al. 1974). Moves by the National Heart Foundation encouraging New Zealanders to reduce their fat intake have spurred effort and interest in grain legume research. Although this bibliography covers grain legume research over more than 80 years, over two-thirds of the 525 references report work done since 1980 and over one-third since 1990. This has occurred despite the perception of the average New Zealander that grain legumes are time consuming to cook, are visually not attractive, and are tasteless, boring, and even "anti-social".

Although peas have dominated research, other grain legumes such as lentils, chickpeas, beans, peanuts, lupins, soybeans, and mungbeans have been evaluated for their suitability for commercial grain legume production under a range of environments

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in New Zealand. This paper lists and indexes 525 publications on research on grain legumes. Over 30% of the publications specifically refer to research on peas (*Pisum sativum* L.), but there is a considerable volume of research evident on other grain legumes, particularly chickpeas, lupins, lentils, and soybeans.

This bibliography follows a similar one by the same authors on herbage seed production research 1988–97, published in 1998 (Rowarth et al. 1998); it continued an earlier collation of references covering the years 1881–1988 (Rowarth 1989). The generous response by seed researchers to those publications has encouraged the preparation of this present bibliography on grain legume research in New Zealand from the beginning of the last century.

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