

ADVANCES IN AGRICULTURAL BIOTECHNOLOGY

Breeding Legumes for Enhanced Symbiotic Nitrogen Fixation

G. Hardarson, T.A. Lie
(editors)

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Breeding Legumes for Enhanced Symbiotic Nitrogen Fixation T. A. Lie, 1984 **Breeding Legumes for Enhanced Symbiotic Nitrogen Fixation**, 1984 **Breeding Legumes for Enhanced Symbiotic Nitrogen Fixation** Gunnar Hardarson, T. A. Lie, 1984 *Breeding Legumes for Enhanced Symbiotic Nitrogen Fixation* Food and Agriculture Organization of the United Nations, Ajia Keizai Kenkyūjo (Japan), *Breeding Legumes for Enhanced Symbiotic Nitrogen Fixation* Gudni G. Hardarson, A. Hardarson, T. A. Lie, 1985-02-28 Proceedings of an IAEA Consultants Meeting held in Vienna 26-30 September 1983 **Breeding Legumes for Enhanced Symbiotic Nitrogen Fixation** G. Hardarson, T. A. Lie, 1985

Enhancement of Biological Nitrogen Fixation of Common Bean in Latin America F.A. Bliss, Gudni G. Hardarson, 2012-12-06 The common bean *Phaseolus vulgaris* L is the most important pulse crop in Latin America as well as in large parts of Asia and Africa It is particularly important due to its ability in symbiosis with *Rhizobium* bacteria to fix atmospheric nitrogen and due to its high nutrient value Incorporating contributions from plant breeders microbiologists plant physiologists and soil scientists this volume reports the results of an FAO IAEA Coordinated Research Programme 1985-1991 whose main objective was to enhance yield and biological nitrogen fixation in common bean by reducing its reliance on soil and fertilizer nitrogen The volume will be invaluable to scientists working on biological nitrogen fixation and legume production *Breeding Legumes for Enhanced Symbiotic Nitrogen Fixation* Gudni G. Hardarson, T. A. Lie, 2011-10-13 Adequate nitrogen fertilization is needed to obtain maximum crop yields Without sufficient nitrogen available to the plant other inputs are wasted There are great differences between developed and developing areas of the world with regard to nitrogen fertilizer production and application resulting in serious food deficits in some of the most needy areas Although nitrogen fertilizer is an inexpensive input in comparison to the resulting yield increases chemical fertilizers must be purchased and do represent a direct cash outlay sometimes the only cash requirement for the peasant farmer often an insurmountable obstacle in subsistence farming situations If present economic trends continue poor farmers may find it increasingly more difficult to pay for nitrogen fertilizers Biological nitrogen fixation offers the most promising alternative or supplement to chemical nitrogen fertilizers Furthermore nitrogen fixation does not present any hazard to the environment which may be the case with excessive application of chemical nitrogen fertilizers It is therefore of utmost importance to promote the use of nitrogen fixing crops especially grain legumes which are also an important source of dietary protein Although legumes only account for some 9% of the combined world dry matter yield of cereals and legumes they constitute as much as 24% of the total protein yield of these crops because of the high protein content in legumes **Breeding legumes for enhanced symbiotic nitrogen fixation** Gudni Hardarson, 1984 *Breeding Legumes for Enhanced Symbiotic Nitrogen Fixation* Gudni G. Hardarson, T. A. Lie, 1985-03-14 Adequate nitrogen fertilization is needed to obtain maximum crop yields Without sufficient nitrogen available to the plant other inputs are wasted There are great differences

between developed and developing areas of the world with regard to nitrogen fertilizer production and application resulting in serious food deficits in some of the most needy areas. Although nitrogen fertilizer is an inexpensive input in comparison to the resulting yield increases, chemical fertilizers must be purchased and do represent a direct cash outlay, sometimes the only cash requirement for the peasant farmer, often an insurmountable obstacle in subsistence farming situations. If present economic trends continue, poor farmers may find it increasingly more difficult to pay for nitrogen fertilizers. Biological nitrogen fixation offers the most promising alternative or supplement to chemical nitrogen fertilizers. Furthermore, nitrogen fixation does not present any hazard to the environment, which may be the case with excessive application of chemical nitrogen fertilizers. It is therefore of utmost importance to promote the use of nitrogen fixing crops, especially grain legumes, which are also an important source of dietary protein. Although legumes only account for some 9% of the combined world dry matter yield of cereals and legumes, they constitute as much as 24% of the total protein yield of these crops because of the high protein content in legumes.

Mechanisms of Plant Growth and Improved Productivity: Modern Approaches

Amarjit Basra, 2021-04-29. Discusses the mechanisms of plant productivity and the factors limiting net photosynthesis, describing techniques to isolate, characterize, and manipulate specific plant genes in order to enhance productivity. The uptake of carbon and the practical aspects of plant nutrition are discussed.

Breeding Legumes for Enhanced Symbiotic Nitrogen Fixation

Gudni Hardarson, 1984. **Enhancement of Biological Nitrogen Fixation of Common Bean in Latin America**. Fredrick A. Bliss, Gudni Hardarson, 1993. The common bean *Phaseolus vulgaris* L is the most important pulse crop in Latin America as well as in large parts of Asia and Africa. It is particularly important due to its ability in symbiosis with *Rhizobium* bacteria to fix atmospheric nitrogen and due to its high nutrient value.

World crops: Cool season food legumes

R.J. Summerfield, 2012-12-06. The genesis of the International Food Legume Research Conference (IFLRC) can be traced back to 1983 and so this Volume, the Proceedings of that Conference, has had a gestation period of close to five years. Professor Norman Simmonds, the perennial Book Review Editor of *Experimental Agriculture*, has expressed the opinion (vol 22, p 201, 1986) that many symposia volumes are just plain awful. Elsewhere (*Nature*, vol 312, pp 201-2, 1984) Anthony Watkinson, then a Commissioning Editor at Oxford University Press, has described several reasons which have led him to believe that Conference proceedings symposia are generally disliked. To put it mildly, this type of publication has a bad name. The problems from an author's perspective of contributing to any many authored publication are aired in an exchange of correspondence in *Biologist* (vol 30, pp 123 and 180, 1983; and vol 31, pp 3 and 69, 1984). And from the editor's viewpoint, D.J. Weatherall, then Nuffield Professor of Clinical Medicine at the University of Oxford, has described (*Nature*, vol 317, p *Red Clover Science*). N.L. Taylor, K. H. Quesenberry, 2013-04-17. This book examines the literature on red clover since about 1985. In each of the 17 chapters, an effort was made to summarize the earlier literature and to integrate the recent findings into this background. The timing is appropriate with the present interest in sustainable agriculture in which red clover was so

prominent in the past This is the first book to be published which deals solely with this important forage species Audience
Primarily scientists and scientifically trained technicians who will appreciate an up to date summary on red clover

Breeding Legumes for Enhanced Symbiotic Nitrogen Fixation T. A. Lie, G. Hardarson, A. Houwers, 1984

Genetics Abstracts, 1986 **Improvement of N₂ Fixation in Common Bean (*Phaseolus Vulgaris* L.) at Different**

Levels of Available Phosphorus Pedro Antonio Arraes Pereira, 1987 CUET PG Plant Biotechnology Chapterwise

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Abstracts, 1986 Monthly Classified listing of references to worldwide articles dealing with all aspects of biotechnology Also

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Author and subject index

Decoding **Breeding Legumes For Enhanced Symbiotic Nitrogen Fixation**: Revealing the Captivating Potential of Verbal Expression

In an era characterized by interconnectedness and an insatiable thirst for knowledge, the captivating potential of verbal expression has emerged as a formidable force. Its ability to evoke sentiments, stimulate introspection, and incite profound transformations is genuinely awe-inspiring. Within the pages of "**Breeding Legumes For Enhanced Symbiotic Nitrogen Fixation**," a mesmerizing literary creation penned by a celebrated wordsmith, readers set about an enlightening odyssey, unraveling the intricate significance of language and its enduring effect on our lives. In this appraisal, we shall explore the book's central themes, evaluate its distinctive writing style, and gauge its pervasive influence on the hearts and minds of its readership.

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