

The Lotus Newsletter: an electronic Lotus research community

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Introduction The Lotus Newsletter (LN) was created by Dr. W.F. Grant (former editor) in 1971, integrating scientists working on diverse aspects of research on *Lotus* spp. The LN received further impetus under the editorship of Dr. P.R. Beuselinck, who shaped the electronic version (<http://www.psu.missouri.edu/ln/>). The newsletter aims to provide a vehicle for the exchange of information where opinions, in addition to established facts, can be presented. One of the strengths of the LN has been the lead article for each issue and the extensive bibliographic listing published every year, which facilitates access to recent literature. As a medium to let everyone know what research is being carried on in different parts of the world, it helped to prevent overlap of projects and to form research alliances.

Broadleaf birdsfoot trefoil (*Lotus corniculatus* L.), narrowleaf trefoil (*L. glaber* Mill.), and big trefoil (*L. uliginosus* Schkuhr.) are the most common commercial species of *Lotus*, but there are more than 150 other species. Within LN volumes the first indications of a biotechnology revolution are recorded. This eventually identified *L. japonicus* as a plant model for genetic research on symbiosis and physiological processes. The LN had pulled together information on all aspects of *Lotus* spp. research and provided a wide view of the *Lotus* community. The *Lotus* community through the Newsletter could play a key role in exploiting the close relationships between the model species and forage *Lotus* species, thus assisting the development of the latter.

Objectives The LN seeks to extend researchers information world wide. The consolidation of the information about research activities, the development of a readily available and easy to use comprehensive media for researcher profiles, the publication of annual issues and the development of a virtual library are among the main objectives. The target audience is the research community, to ensure the linkage between molecular and applied research.

The research community The highly diverse nature of the research community involved with *Lotus* shows both the strength of the Newsletter and the challenge to it. Some 166 researchers from 28 countries working on 31 species of the genus *Lotus* and related genera (eg. *Podolotus*, *Acmispon*) participate in LN. The distribution of researchers within areas and species reflects the structure of the *Lotus* community (Table 1). The number of researchers is distributed evenly between model *Lotus* and the main cultivated species (*L. corniculatus*). Whereas research on model *Lotus* is spread across 23 countries, research on cultivated species is concentrated in their main areas of utilisation. U.S.A. represents the main research group on *L. corniculatus* (26%), while Argentina leads the research group on *L. glaber* (61%) and almost half of *L. uliginosus* researchers come from Uruguay. At the other end of the spectrum, one or two scientists develop research on 24 miscellaneous species.

Table 1 Number of countries and researchers within each *Lotus* species

Species	Countries	Researchers
Model		
<i>L.japonicus</i>	23	73
Cultivated		
<i>L.corniculatus</i>	17	77
<i>L.glaber</i>	8	36
<i>L.uliginosus</i>	10	29
<i>L.subbiflorus</i>	2	6

Progress and perspective Researchers provided information on main activities, species, and subjects of research for the web page. Its development has progressed through several interactions based upon members recommendations. The current main page is at the following URL: <http://www.inia.org.uy/sitios/lnl/index.html> Static information currently limits the web effectiveness in serving multiple users. An essential step towards a dynamic newsletter is the revised information. The thorough documentation of researchers' activities, together with the monthly updating of researchers' profiles, considerably enhanced their subsequent use, enabling the rapid location of potential information/partners. Links to various genetic resources for genetic and genomic research in *L. japonicus* developed in Europe and Japan, as well as forage and legume web pages, avoid useless duplications. The counter inclusion and the email relay list "Lotus Network" helped monitor the utilisation of LN. Assembling currently existing materials will be the future task, in parallel with developing the overall system design. A virtual library will pool together the information available at LN, complementing the traditional information available and minimising the time necessary to find information or partners.