"2000-2009 Publication metrics reveal world trends of grain legume research"

Bibliometric approaches provide useful tools to evaluate and guide priority research. We present here some examples of criteria and measurements that can be extracted from a publication analysis on grain legumes.

Grain legumes grown in Europe produce protein-rich seeds of good nutritional value for feed or food. They can partially replace imported soybean amounting to about 35 Mt in 2010 in Europe. A symbiosis established with rhizobia bacteria on legume roots allows the plant to use naturally fixed N₂ which reduces nitrogen fertilizer inputs in cropping systems, and related fossil energy costs and greenhouse gas emissions risks.

We studied 2000-2009 worldwide publications on major «cool season grain legumes = CSGL» (pea=Pisum sativum L., faba bean=Vicia faba L., lupins=Lupinus sp., chickpea=Cicer arietinum L., lentils=Lens culinaris) and compared them to soybean=Glycine max L. An analysis addressed weight by species, disciplines, topics, countries, journals.

The networks of collaborations between scientists and institutions reflected by co-authorships will be the next step of our study.

**Research discipline distribution**

Using the international bibliographic data «CAB Abstracts ® CAB International», we built two world corpus : «cool season grain legumes CSGL» and Soybean. Subgroups were created for different research disciplines by relevant choices of Cabicodes and descriptors available in «CAB Abstract» database.

**Relative world species distribution**

Using «CAB Abstracts ® CAB International» data, we build a world corpus gathering the publications on cool season grain legumes (CSGL), on two tropical grain legumes (Glycine max L. and Phasolus Vulgaris L.) and on model species that are used to understand grain legume behaviour (Medicago truncatula, Lotus japonicus, Arabidopsis thaliana).

**Example of weak signal detection**

The publications relative to organic farming represent a weak signal (less than 1% of the global corpus) that are mainly and evenly distributed by references related to soybean and pea.