e-FLORA-sys, a website tool to evaluate the agronomical and environmental value of grasslands

Plantureux S. and Amiaud B, UMR Agronomie et Environnement, 54500 Vandoeuvre, France

http://eflorasys.inpl-nancy.fr

Introduction

e-FLORA-sys is a free website developed to provide a research and a diagnosis tool for grassland researchers and technicians. The system is based on databases describing grassland species, floristic composition of grasslands, agricultural practices, soils and climates, and vegetation associations. From this information, the system calculates numerous indexes to evaluate the agronomical and ecological value of grasslands. Users can freely record their own observations (botanical relevés, agricultural practices, ...), which are protected by a login device. E-FLORA-sys is currently used in a national program studying grassland agronomical and ecological value (CASDAR)

eFLORAsys database

The species table contains data on plants (currently 3000 species) found in most European grasslands : identification (translations and synonyms), agronomical value (potential production level, quality for cattle, sheep, goats and horses), patrimony value (rarity, inscription on red lists), reaction to abiotic factors (soil and climate) and agricultural practices (i.e. adaptation to frequent cutting or trampling) including Ellenberg indices, biological and ecological characteristics (aerial part, root and diaspore morphology, germination, reproduction and dispersion, life traits, Raunkier types).

Menu
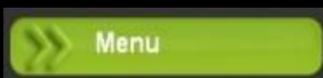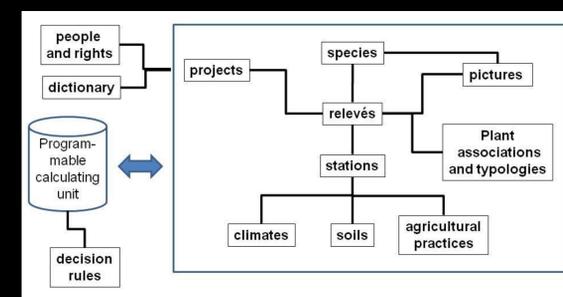
Help
Species
Samples
Stations
Geographic area
Soils
Climates
Management
Associations
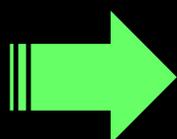FLORA-Predict
Bibliography

Member Login
Username
Password
Validate

The relevé table includes the floristic composition, and all the calculations, graphs and texts for an agronomical and an ecological diagnosis. Several methods of relevés are available. Each relevé is geolocated (Google maps®) and linked to a station which is itself linked to 3 tables describing the climate (temperature, precipitation, radiation), the soil (physical and chemical parameters) and the agricultural practices (fertilization, grazing, mowing, other practices). The associations table enables the users to link the relevés to recorded known types of grassland vegetation or European habitats. Relevés can be gathered in studies, in order to study grasslands of a particular region, to compare evolution in time, or to focus on a specific aspect (i.e. effect of nitrogen fertilization amount). Pictures of species and grasslands can be stored. The access to information is controlled by a system of user rights defined in the table of 'people and rights". A dictionary allows a full english and french translation of all technical and software command terms. A table is describing decision rules involved in agronomical and ecological interpretation, and in prediction of floristic composition (Flora-predict model) .

Diagnosis tool

Botanical composition of the grassland

Forage value

Biodiversity

Functional types

Ecological indexes