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The Italian phenological database

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In the framework of research project "Agroscenari- Scenarios of adaptation of the Italian agriculture to climate change" (www.agroscenari.it), CRA-CMA is carrying out a phenological database (Dal Monte et al., 2010), that represents the "Phenology" section of National Agrometeorological Data Bank (BDAN) of National Agriculture Informative System. We are now filling the database with previous data – coming from collecting activity of main Italian phenological data series - and current data as they are recorded by networks, particularly by the IPHEN project network (Mariani et al., 2007): since 2006, the project has organized a phenological network at national level, based on voluntary professional observers. The data already gathered and ready for data entry come from
- IPHEN project (from 2006) on grapevine, olive, elder, cypress and locust tree;
- Bologna University (from 1975) on wild species;
- Perugia University (from 1982) on phenological gardens and olive;
- ARPA-EMR (from 1990): on phenological garden and cultivated species.
The database has been implemented by the relational database management system Oracle v.10; web interface is Java vers.JRE 1.4.2 and data exchange is implemented according to XML format.
Hereinafter the description of some characteristics of the DB:
- input masks for on-line data entry by observers and an FTP server are available in order to upload new data into the database;
- even if the BBCH scale has been chosen as reference scale in the database, because of its well-known worldwide use, the system is able to collect data recorded with other scales and afterwards it can converts them into BBCH scale, by means of specific transcoding tables;
- data quality control procedures comply with COST 725 recommendations;
- access to data is on different levels: authorized users (for instance, data suppliers, researchers, ...) are able to enter directly in the database to upload, download or modify data, while general users can access web pages with graphs and summary statistics on the database.
Since there are several phenological activities in Italy (phenological gardens, agro-phenological networks, phenological modeling, ...), a national database could become a strong tool to improve them and to make data exchange easier, also at European level. For this reason, CRA-CMA is partner in "PEP725-Pan European Phenological database".

References:

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