

BETSY : AN INTERNET BASED INFORMATION SYSTEM FOR SUGAR BEET WEEDING ADVICE BROADCASTING

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INTRODUCTION

The Internet version of Betsy inherits from the Minitel (French videotex system) version launched in 1991.

Betsy is a sugar beet weeding decision support system focusing on weedkiller treatment of post emergence.

Betsy suggests the most accurate treatment according to present weeds, to their development stage and to the location of the field.

The intended results are both financial savings for the farmer and more environmentally benign control practices.

This decision support system works thanks to a dynamic database designed for real-time updating.

This active web site makes existing knowledge and expertise of our technical advisers directly available to sugar beet growers using Internet.

DATA INPUT

Information to input is a list of observed weeds, identifying a prevailing species and secondary ones.

If the precise location of the farm is given, advice is fitted to the specific area.

Betsy allows validation of input data, with possible reference to a weed photo database.

BETSY ADVICES

Resulting advices consist in a recommended list of possible herbicide mixtures, sorted by decreasing efficiency for the main weed. The advice tab includes selectivity and cost of each treatment as elements of choice.

Weeding information concerning secondary weeds is supplied in other columns.

Efficiency and selectivity are measured thanks to colour codes.

Betsy estimates the cost of herbicide treatment from prices published by herbicide manufacturers.

Over 2400 registered herbicides, all given a marketing agreement, are available in the database.

For each treatment, detail of usage recommendation is given. Precise information on herbicide doses is also supplied.

An additional output is a list of other weeds sensitive to the treatment.

Another section in the output points out the context for treatment applying, specially in case it needs to be part of a series of treatments.

Product description is supplied for each herbicide involved in the mixture, with marketing agreement information and also a reproduction of the commercial label.

A list of other commercialised herbicides using the same active substances is provided.

SUPPLIES INFORMATIONS

Betsy contains illustrated sheets describing the most common weeds in sugar beet cropping.

This module displays textual information and provides access to colour pictures of weed in their early growth stages to help farmers in the identification of weeds and in determination of their development stage.

For each weed, specific treatment information is given :

- a list of weeds which behave the same way with the treatment,
- the stage of development where the weed is the more sensitive,
- a list of efficient herbicides,
- a list of possible mixings.

TECHNICAL DESIGN

Betsy is a web based decision support system. Answer pages are dynamically filled with results depending on information a user inputs.

The reference database is continually updated by ITB sugar beet specialists located in different regions of France.

Betsy includes a special photo database gathering only digital pictures, and constantly updated by ITB (French technical institute for sugar beet) sugar beet specialists. Photographs are stored and retrieved thanks to Phot@thèque, an image management software available from ACTA Informatique.

CONCLUSIONS

The Internet version of Betsy is on line since spring 2002, at the URL <http://www.itbfr.org>.

Betsy contains weeding information concerning the most common weed species in sugar beet cropping, and description forms to help for weed and development stages identification.

Betsy information system is continually updated by ITB sugar beet weeding specialists, thus allowing to fit recommendations, specially mixtures and doses, to real weather conditions.

Over 4500 connexions have been reported for the year 2002.

Next Betsy release will integrate eco-toxicological information on the use of herbicides.

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