

# Bgholstein - Web information system for the bulgarian farmers

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## Abstract

*A bgholstein web information system of Bulgarian Holstein Friesian Association is offered. Methods for users demand survey (for a 12-month period) are used considering the dynamic changes in the cattle-breeding structure. During the survey, visitors were given the opportunity to fill in an inquiry form processed in real time. The registration form gives detailed information about the subscriber and about the operation of the system. The survey results obtained in the period of one month are discussed. bgHolstein is a system oriented towards a wide range of Bulgarian users (farmers, agricultural engineers, consultants, students). The basic pages of the application are also offered in English, thus creating an opportunity for international contacts.*

## 1 Introduction

The opportunities offered by the World Wide Web (WWW) as a means of information transfer are still not used in their full capacity in the Bulgarian agriculture. The accession requirements for Bulgaria regarding its association in the European Union call for a new organization and information policy in the area of dairy breeding as well. Four associations have been established to support farmers' efforts in raising the economic effectiveness of cattle breeding. The cow race structure analysis shows that the major share (over 70%) belongs to the Holstein Friesian cow [4,5]. This fact called for integrated efforts of the newly established Bulgarian Holstein Friesian Association, Rousse Regional Office of Animal Selection and Reproduction and Rousse University for the creation of an experimental web-based information system, which is to serve as a basis in the development of a National Information System for Ecological and Natural Stock-Breeding.

## 2 The Association – Major Objectives

The National Bulgarian Holstein Friesian Association was established in 1999 in the town of Rousse. It supports, unites and monitors more than 450 farms in the country that breed Holstein Friesian cows. Its main objective is to guarantee race purity and raise genetic potential of the Bulgarian population (see Figure1). It creates a **National Breeding Book** in conformity with the ICAR and INTERBULL requirements. It develops a **Selection Programme** for:

- information data base that provides animal identification and registration and continuous communication with farmers;
- artificial insemination, embryo transfer, import and export of breeding stock,
- breeding race herds of highly productive qualities.

Through **Investment Projects**, the Association supports its members to apply for subsidies, credit lines and other forms of financial assistance needed for the genetic and technical development of the farm. A separate **Consultancy Programme** provides real-time access to information on the world scientific achievements, organizes training and qualification in specialized centres and experimental farms.

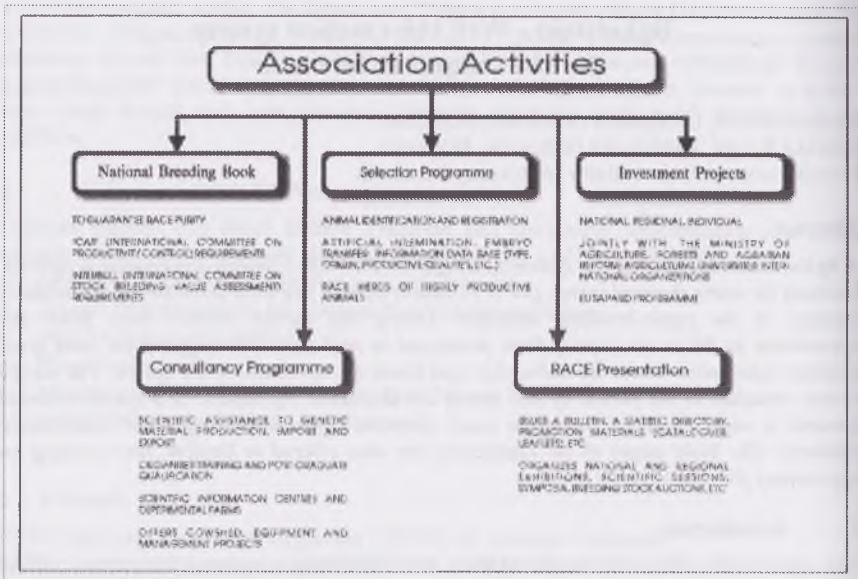


Fig.1 Association Activities

### 3 System Description

#### 3.1 Organization and Objectives

In view of developing an effective web information system, an analysis of the structure of similar pages in the EU countries was conducted [1,2,3]. The little practical and organisational experience of the Association as well as the dynamic changes in the cow breeding structure have been taken into consideration. Methods for a continuous 12-month research have been offered. The main objective of the research was to study the possibilities of Internet to address the following problems:

- 1) Creation of an information database aimed at providing practical advice to farmers;
- 2) Development of a national system for animal identification and registration;
- 3) Online consulting services and illustration of the scientific developments in cowshed and equipment design and farm management;
- 4) Presentation of the world experience in the field of genetics and race breeding.

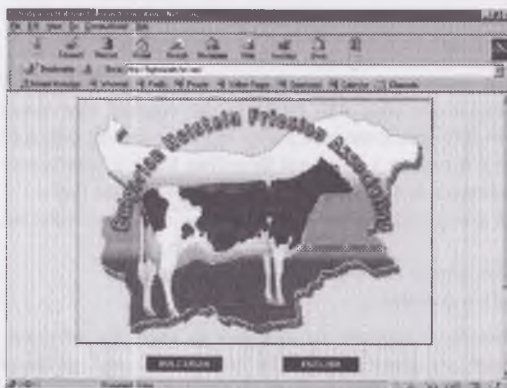


Fig.2 Main page

During the research, the following Internet address was used: <http://bgholstein.fsn.net> (see Figure2) and the visitors were given the opportunity to fill in an inquiry form. The results of

the inquiry were automatically classified and processed in real time. The registration form provided detailed information about the subscriber and about the usage of the system.

### 3.2 Architectural Design

WEB bgHolstein is a system oriented towards a wide range of Bulgarian users (farmers, agricultural engineers, specialists, etc.). It may also be used for multimedia training of students in relevant degree courses. The basic pages of the application are also offered in English, which gives an opportunity for international contacts. The main topics in the web-site are arranged in several basic windows that provide quick access to:

- Switching between different topics for presenting the information in file format;
- Hierarchical structure of the web-site;
- Link with external URL addresses.

To make usage convenient, tools have been developed for dynamic information, database search (for example the National Breeding Book) or activation of the design decisions offered. Of course, bgHolstein also contains statistical HTML documents that are regularly updated. The pages contain graphical information, text fields, tables, hyperlinks for additional and linking information, objects for user forms administration (see Figure3).

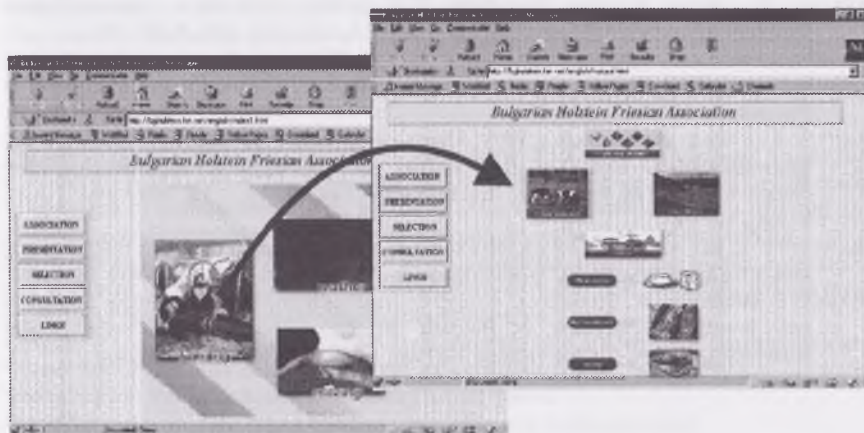


Fig.3. Sample Link between Different Pages

The navigation bar has 5 buttons that provide:

- Up-to-date information on the objectives, organization and members of the Association;
- News of national and regional exhibitions, scientific sessions, symposia, catalogues and leaflets;
- Selection and Consultancy Programmes;
- Communication with and forwarding to similar Bulgarian and international web-sites, organizations, companies, etc.

## 4 Discussion

347 visitors, formally grouped in the following categories: farmers - 86, consultants (specialists) - 47, students - 21, guest visitors - 194, have been registered in bgHolstein for the period 17.04 - 21.05.2000.

Farmers: The level of erudition is not very high. The average interval between their visits is about one week, which suggests a very high level of interest into the web-site. The small number of visitors proves the need for additional training in using Internet. (including web-site structure).

Consultants and students: A very high level of erudition. The several weekly visits show the need of daily databases update.

Guest visitors: Mixed level of erudition. Comparatively uneven visit intervals.

## 5 Conclusion

The interest shown by the Bulgarian users (farmers, consultants, students) determines the need of a bgHolstein web information system. It could assist the creation of a National Agricultural Information System. The survey that has been conducted demonstrates the need for additional training of Bulgarian farmers in using Internet. Besides, the web-site needs further development and improvement in response to the tasks standing before the Bulgarian Holstein Friesian Association.

## 6 Reference

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