

A Site-Specific Retrieval System for Crop Information

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NewCROP (New Crops Resource On-line Program) is a web-based internet resource developed by the Purdue University Center for New Crops and Plant Products emphasizing new and specialty crops (www.hort.purdue.edu/newcrop). Designed to deliver instant topical information on crop plants, NewCROP first came on-line in 1995, and since that time has continued to grow significantly in content information and represents the most extensively used virtual library of new crop information on the web (Simon et al. 1996). Since that initial report, advances in web-based technology, coupled with the addition of new databases have enabled NewCROP to continue to address the needs of the new crop community. Linkage to crops is based on either a comprehensive index using common and scientific names (CropINDEX) or via a search engine (CropSEARCH). The information on crops is based on in-depth information prepared by crops experts (FactSHEETS), information from the proceedings of national new crop symposia, crop monographs, and links to outside sources. A portion of NewCROP now concentrates specifically on herbs, spices, aromatic, and medicinal plants (Aromatic-MedicinalPLANTS). Other useful databases include information on import permits phytosanitary certificates, quarantine, and inspection information (IMPORT-EXPORT), information on species consumed in times of food scarcity (Famine Foods), directories of researchers and experts (CropEXPERT), and announcements (CropEVENTS). In 1998, the web site received and responded to over 1.7 million requests for 650,623 pages, serving 218,836 distinct hosts. An historical graph of the site traffic from July, 1996 to April, 1999 shows a continuous upward trend (Fig. 1). The site is accessed nationally and internationally by many users (Table 1). (See <http://www.hort.purdue.edu/stats/98newcrop.html>)

At the heart of this virtual library, NewCROP incorporates the three proceedings organized by the Center for New Crops and Plant Products (*Advances in New Crops*, 1990; *New Crops*, 1993; and *Progress in New Crops*, 1996) and will include this present volume, *Perspectives on New Crops and New Uses*, 1999, organized in conjunction with the Association for the Advancement of Industrial Crops and the New Uses Council. These four volumes contain over 400 articles with references to over 7,000 crops (scientific and common names) and crop products. All texts are hyperlinked.

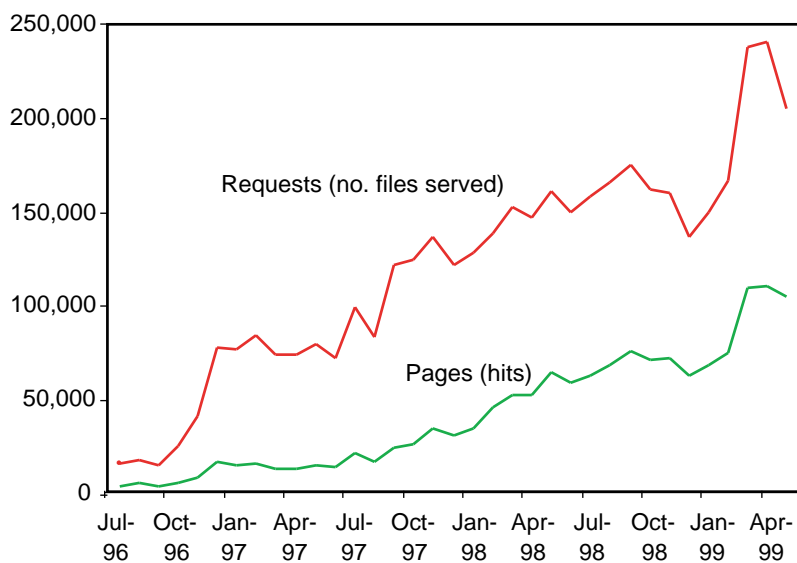


Fig. 1. NewCROP web server statistics.

Table 1. NewCROP web server domain report for 1998.

User domain	Pages % of total
Commercial	24.4
Network	18.6
Unresolved	21.2
US government	0.7
Education	6.6
Organizations	0.9
Foreign*	25.6

*Includes Canada, Australia, United Kingdom, Germany, New Zealand, Belgium, Netherlands, Denmark, Mexico, Italy, Brazil, Switzerland, Spain, Japan, France, Malaysia, Sweden, South Africa, Portugal, Singapore, Argentina, Israel, Finland, India, Greece, Thailand, Hungary, South Korea, Indonesia, Colombia, Chile, Norway, Austria, Peru, Poland, Turkey, Costa Rica, Czech Republic, Philippines, Ireland, Yugoslavia, Slovenia, Hong Kong, Croatia, Russia, Venezuela, Nicaragua, Taiwan, Ecuador, Jamaica, Uruguay, Egypt, Estonia, Dominican Republic, Slovak Republic, United Arab Emirates, China, Guatemala, Romania, Botswana, Iceland, Lithuania, Ukraine, Trinidad and Tobago, Cyprus, Zambia, Bahrain, Bulgaria, Namibia, Oman, Paraguay, Bolivia, Kenya, Lebanon, Jordan, Malta, Macedonia, Mauritius, Guyana, Luxembourg, El Salvador, Pakistan, Bosnia-Herzegovina, Panama, Former USSR, New Caledonia, Ethiopia.

INDIANA CROPMAP

A site-specific retrieval system (CropMAP) to identify current and alternative crops was developed using the state of Indiana as a prototype (Fig. 2). CropMAP was conceptualized to enhance the usefulness of the NewCROP database to growers, marketers, and extension personnel. CropMAP is based on three concepts: (1) the development of an interactive state map; (2) the incorporation of county crop statistics from the US Agricultural Census; and (3) the development of crop lists by state experts subdivided into traditional crops, recommended crops, experimental crops, and non recommended crops. Each crop is linked to detailed information available in our databases and enriched by extension information. The prototype, Indiana CropMAP, is described below.

The interactive map of Indiana is divided into its 92 counties. Each county can be accessed by clicking the image map or county name. The county page brings up information and options as follows: (1) a highway map in color; (2) a link to extension resources; (3) crop statistics from the most recent agricultural census; (4) a list of crop commodity groups (cereals and pseudocereals, forage legumes and grasses, fiber and industrial crops, vegetables, fruits and nuts, aromatic, herb, spices, and medicinal crops). Selecting a crop group leads to a list of crops under four headings: traditional, recommended, experimental, or not recommended. Each crop is followed by a statement briefly describing general suitability and adaptation throughout the state. The crop name is also linked to general information contained in NewCROP enriched by specific extension information from the state or region.

The prototype for Indiana does not yet include ornamental, greenhouse, or forest crops. Information on crop statistics was obtained from the 1992 US agricultural census but is being updated by inclusion of data from the 1997 census. The list of crops was suggested by different extension personnel at Purdue University. The list is not static, and new information can be added or deleted as needed.

FUTURE DEVELOPMENT

The expansion of CropMAP to other states is best handled on a state to state basis through local experts. We are proposing a Coordinator for each state to choose the specific Crop Specialists for each of the crop classes. The State Coordinator needs to define the specific crop regions for each state. The Crop Specialists will complete the list of traditional, recommended, experimental, and not recommended crops for the following classes (1) Cereals, pseudocereals, and oilseeds, (2) Forage grasses & legumes, (3) Vegetables, (4) Fruits & nuts, (5) Herb, aromatic, medicinal, & bioactives, (6) Industrial & fiber (7) Nursery & ornamental (8) forest crops. The crop lists can be modified to reflect the needs of specific regions. We plan to initially expand CropMAP to five states in 1999 and to include the entire US by 2001. Should this system prove useful it could then be expanded into other countries.

One of the problems we foresee is to develop agricultural zones of the United States similar to the hardiness zones. A system has been developed by Sunset Books, Inc. and these maps which are copyrighted are found in *Sunset National Garden Book* (1997).

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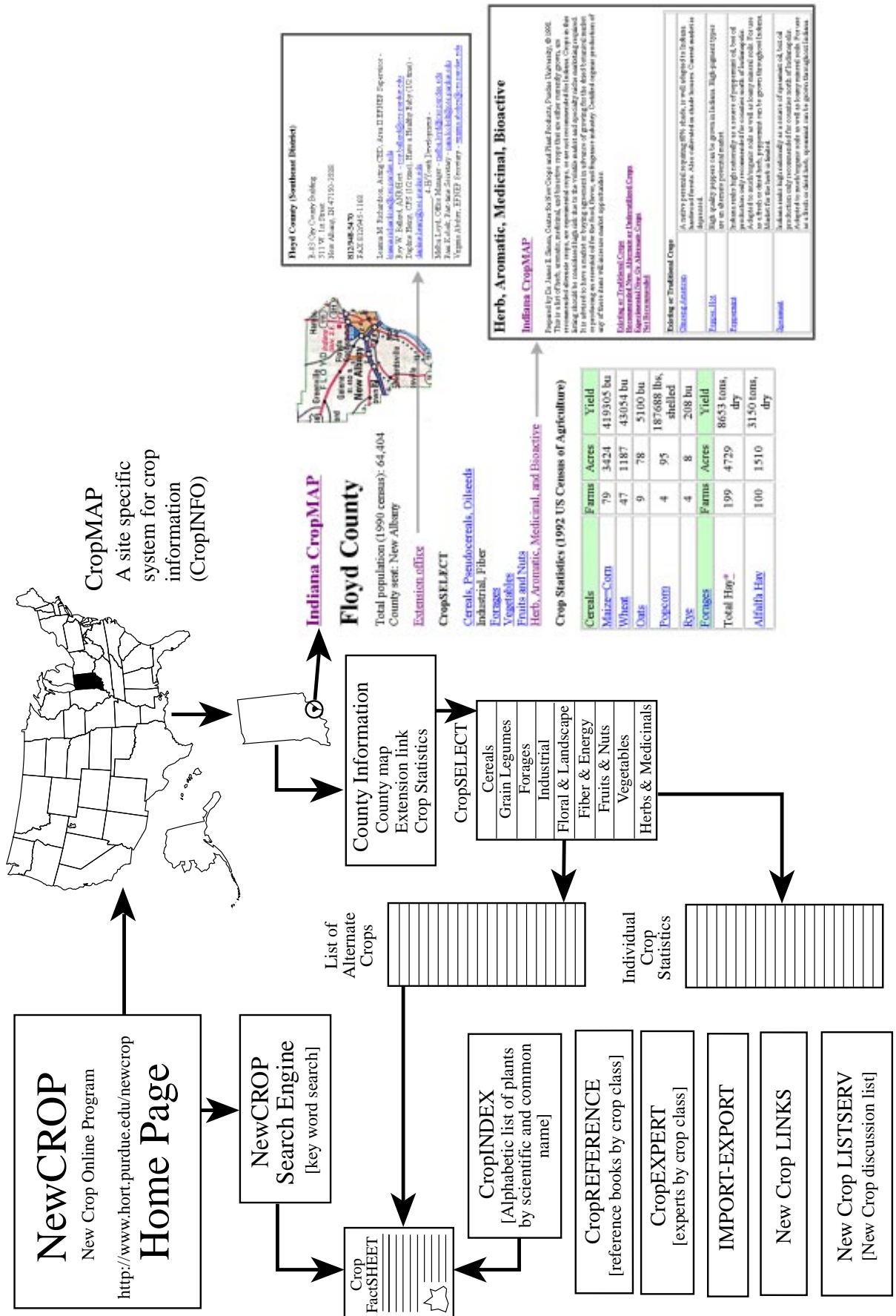


Fig. 2. Indiana CropMAP