DEVELOPING A NATIONAL ALFALFA INFORMATION SYSTEM

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Abstract

Using state-of-the-art telecommunication technologies, this project is developing a comprehensive knowledge resource for alfalfa (*Medicago sativa* L.); the National Alfalfa Information System (NAIS). This project will serve as an improved model for Extension educational programs. Alfalfa is the most important forage crop in the USA and grown worldwide for feeding millions of livestock and in many cropping systems. As a legume, it is important in sustaining the environment and the productivity of agriculture. Information needs are present in every state and internationally. The NAIS is being developed through national and international cooperation, putting the best science-based alfalfa information and expertise at the fingertips of producers, consultants, extension workers, instructors, researchers, and users. Collaboratively developed materials will reduce duplication of effort. To make the knowledge easy-to-use, educational design, communication, and information science professionals are working with alfalfa experts in creating a WWW system and "Web-aware" CD-ROM. To ensure content quality, peer-review by members of multiple professional societies is included. A significant result will be around-the-clock availability of up-to-date, easy-to-use, and peer-reviewed information. Shared workload and the peer-review process can influence faculty morale, efficiency, and effectiveness, an adjunct to maximizing the utilization of alfalfa worldwide by making the best information readily available.

Keywords: WWW, CD-ROM, Extension

Acronyms or Abbreviations: National Alfalfa Information System (NAIS)

Introduction

Alfalfa (*Medicago sativa* L.) is one of the few crops grown in every state of the USA. It is the most important hay and pasture plant in North and South America, Asia, and Europe. Alfalfa is high yielding, palatable and nutritious, and produces more protein per acre than any other livestock feed. It is grown on over 27 million acres (10.94 million hectares) in the USA, fed to millions of livestock, used as a part of farming rotations for soil improvement and weed control, and as a health food. Alfalfa is utilized as pasture, hay, silage, meal, pellets, cubes, sprouts, fuel, and for carotene and chlorophyll extracts.

Currently there is a great need for a consolidated resource of alfalfa information. This project is developing a readily available and easy-to-use comprehensive multimedia information resource for alfalfa including text, graphics, color pictures, video and audio segments, and teaching materials.

Materials and Methods

Concept development. Green et al. (1997) developed a concept paper defining a new model of how to work together more effectively. This concept paper was presented at national meetings of professional societies and has helped shape the conceptual basis for the NAIS. Alfalfa-specific discussions pertaining to developing a NAIS were part of international, national,

and regional meetings. These discussions identified the need for developing a NAIS and a group of individuals with expertise and interest in participating in its development.

Prototype creation. To facilitate further discussions about the project and explore potential sponsorships, several WWW prototypes and a professional meeting poster were developed. These were shared with colleagues, permitting them to make specific suggestions for topics and approaches, thereby refining the concept and intended products. Prototype development also included review and evaluation of Agricultural Databases for Decision Support (ADDS) projects (Eastwood, 2000).

Development teams. Collaborators were organized into three teams: 1) a "Core Development Team," 2) a "Topic Experts Team," and 3) a "Regional Review Team." This approach was selected to ensure multidisciplinary development and subject matter expertise from around the USA, minimizing the time commitments necessary from the topics experts, providing specific management recommendations from the regional review team, and providing a consistent, educationally sound and aesthetically pleasing format from the core development team.

Sponsorship solicitation. Industry sponsorship for continuing development of the NAIS is being pursued to permit faster development and a greater potential for long-term sustainability than the one time funding provided by a single granting agency.

System design. The core development team is evaluating system prototypes that will provide: ease of navigation, a mentoring pedagogy, comprehensive subject matter coverage, and a user-friendly appearance.

Content development. Topic experts are providing alfalfa information to the core development team for review, selection, and initial draft development. Regional experts will provide specific region (agro-ecozone) management recommendations.

Revisions and peer-review. Topic drafts are posted to the WWW for review and revisions by topical experts. Regional experts then review materials and provide region-specific management recommendations. The managing editor, project manager, and educational design specialist will make final revisions to complete modules. A multidisciplinary team provides peer-review from several professional societies (process developed as part of this project with the American Society of Agronomy and other appropriate professional organizations).

End-user review. Target audience representatives will review selected topic areas to ensure information appropriateness. This group will include county agents, farmers and ranchers, and alfalfa-related industry personnel.

CD-ROM development is following the same sequence of development, revision, and review.

Evaluation/assessment tool development. An evaluation/assessment tool will be developed by the Oregon State University Survey Center and will include WWW, e-mail, and regular mail components to determine the use and impact of project products.

Results and Discussion

Progress. NAIS project funding has been obtained from the USDA Agricultural

Telecommunications program area (ADEC, 2000). In addition, funding is being sought from

various segments of the alfalfa industry.

Prototype development has progressed through several iterations based on input from the core

development team, regional review, and topic expert team members. Graphic design and

educational design expert ideas have been implemented by the web specialist. The current draft

is at the following URL: http://forages.orst.edu/is/nais/   Library and information science

professionals are developing a "virtual librarian" concept to provide another form of searching

for specific information, complementing the traditional key word, index, and glossary

approaches.

Challenges and opportunities. Although the highly collaborative nature of the project is a

strength, it is also one of the greatest challenges. Talented people are extremely busy and time is

limited for collaborative projects that do not specifically address day-to-day problems. Although

obvious benefits are derived from working together and developing a comprehensive information

resource, immediate/urgent demands on all participants makes it difficult to progress rapidly on

large cooperative projects.

To reduce the demands on participants, drafts of sections developed from currently existing

materials are being reviewed by topic and regional experts. To ensure professional credit for

their contributions to this electronic information system, recommendations have been made to the

American Society of Agronomy executive board which will increase the level of reward from these activities to that comparable to journal publications.

Future activities. Assembling currently existing materials on establishment from the various parts of the USA has been the first task, in parallel with developing the overall system design. Developing the system with more dynamic and less static information (by linking to external sources of information and creating interactive portions) is a continuing goal. This includes coupling the NAIS with dynamic species adaptation mapping projects (Hannaway et al., 2000), other educational resources, and alfalfa industry web systems. In addition, creating a parallel educational materials / professional development / consultant training web segment and CD-ROM is an objective being discussed with university and industry partners.

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