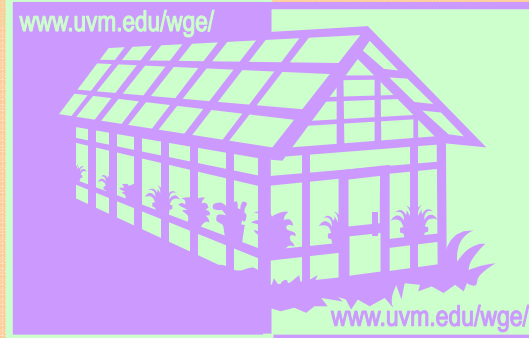


Integrating Video, Interactive Animations, Images, and Assessment Towards an Expandable Instructor Resource for Greenhouse Education.

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FLASH SIMULATOR for greenhouse education is nearly complete; currently being integrated with an engineering model. Simulator will allow students to change environmental control parameters and see the resulting changes to the plant environment.



ABSTRACT

Using a multidisciplinary approach, we are creating an instrument for utilization in a variety of greenhouse related courses. We now have over 3 hours of edited and titled video segments that were obtained at different locations by the same videographer. The greenhouse businesses in Arizona, Vermont, Ohio, and Florida were chosen due to their unique business strategies, level of computerization, type of greenhouse construction, management philosophies, and climate challenges. Individual video segments are based on 9 topics that were covered at each location including computers, structure, plant life cycle, and labor. The videos have been placed on a streaming media server and will be burned to a DVD. An interactive Flash-based greenhouse environment simulator is nearly complete. This instrument allows students to model greenhouse environments based on climate data from each of the four video locations. Additionally, a searchable digital repository has been established that will allow other participants to submit materials for educational use. This open source software (DSpace) has an integrated distribution license which streamlines compliance with the Digital Millennium Copyright Act. Several hundred high quality images have already been uploaded, described and tagged. Learning assessment tools based on numerical self-evaluation and verification narratives are also being developed in conjunction with the multimedia tools. We have created a database of all the greenhouse courses at 1862, 1890, and 1994 institutions and hope to build a community of teachers that will utilize and contribute to the multimedia greenhouse collection. This community has already grown to include two international greenhouse experts who contributed interactive software for educational use.

DSPACE, an open source digital repository, was chosen to store images, videos, and software. These materials are available to any instructor. Currently, there are over 350 described and cataloged quality **images**.

A **WEBSITE** has been designed that will allow for easy addition of new materials in the future and the rapid addition of new features with minimal user time. Website also hosts **student and faculty evaluation instruments**.

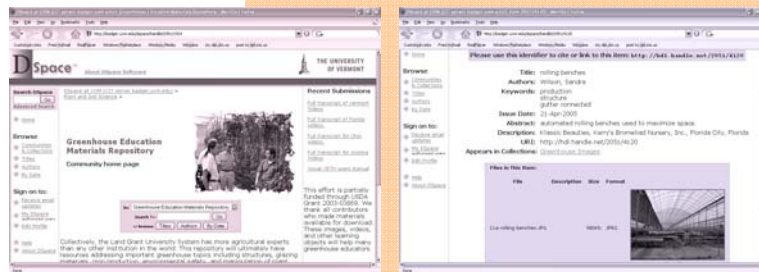
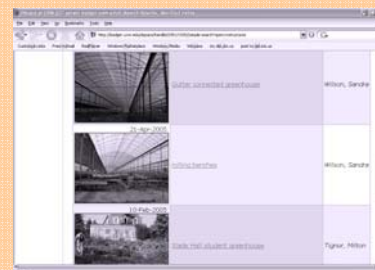


Figure 1. Screen captures from DSPACE displaying some sample images that are available. In addition to images, software and videos are available for educational use. All accessions are submitted along with a distribution license which only allows use of the materials for educational purposes.



3.5 hours of edited video with transcripts completed from 5 commercial operations located in 4 different states on topics ranging from structures to labor management.



Figure 2. Videos are available on a variety of platforms including a searchable database, the central website (via streaming media server), and DVD. The DVD can be played in any DVD player and allows instructors without Internet access the ability to use the videos in their courses.