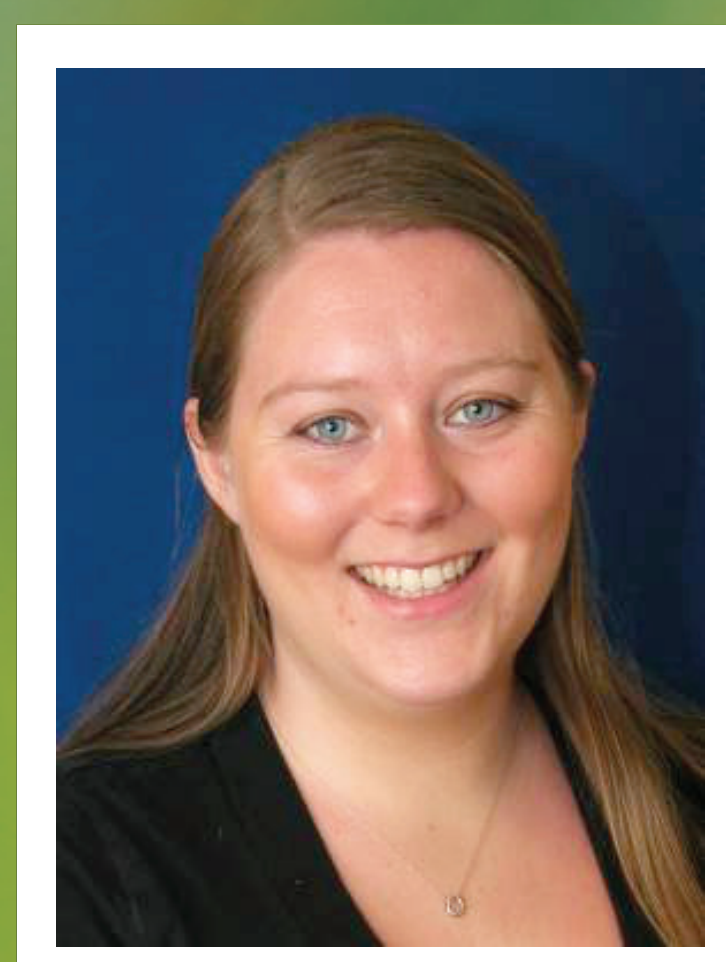


CREATING A GRAZING SYSTEMS MODULE FOR THE International Forage & Grasslands Curriculum

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INTRODUCTION

Grasslands cover 26% of the earth's surface and 80% of agriculturally productive land and provide the forage resource for grazing livestock and numerous environmental services. Mismanagement of grasslands through overgrazing has led to reduction of the available forage and economic well-being of grazers, desertification, dust storms, and loss of ability to serve as water catchments, sources of biodiversity, and as a carbon sequestering landscape to alleviate greenhouse gas emissions.

The creation of a Grazing Systems module for the International Forage and Grasslands Curriculum will provide online access to instructional materials specifically designed for college-level introductory classes. The goal of this module is to introduce students to the concept of grazing and its role in forage-livestock systems, the types of grazing, the advantages and disadvantages of each, the livestock considerations needed for better grazing, and a chart of grazing seasons. The overall approach is to reinforce the concept that global land resources would be much more productive if better managed. This module also will contain several types of calculations needed to apply the principles presented.

INSTRUCTIONAL OBJECTIVES

STUDENTS WILL BE ABLE TO:

1. Explain the role of grazing in a pasture-live stock system.
2. Describe, compare, and contrast different types of grazing.
3. Discuss how livestock and grazing affect pastures.
4. Illustrate and discuss a yearly feed calendar and seasonal grazing.

METHODS

The Grazing Systems module created for the International Forage and Grasslands Curriculum (IF&GC) will be developed by individuals having expertise in: (1) forages and grasslands, (2) instructional design, (3) nutrition and environmental health, and (4) graphic design and journalistic editing. This module will be reviewed by the development team, working with regional and topical experts. Regional advisors will provide reviews of the topic materials to ensure that significant regional differences are considered and included. Topical experts will develop the initial drafts of this module according to the instructional design template.

Inputs, activities, outputs, and outcomes will be defined using a Logical Framework Analysis approach (as described in the World Bank's publication "*The LogFrame Handbook: Logical Framework Approach to Project Cycle Management*"). This approach defines the overall results (outcomes) desired and then works backwards causally to list products (outputs), activities, and inputs required. This approach also ensures that all participants have a clear understanding of the higher level objectives of developing these instructional materials and to clarify the evaluation process through objectively verifiable indicators.

RESULTS

The Grazing Systems module for the IF&GC will provide both instructor and student materials. Content under the instructor materials will help instructors teach a forage and grasslands class using a variety of teaching methods. An Overview, Pre-Test, Instructional Objectives, Summary, Section Review Questions, Exam, Images, and References will be provided for this topic.

Student materials will reinforce and illustrate key concepts and enable students to review and test their knowledge level on each topic. This will include practice exams, a reading test, math review, and a writing evaluation.

THIS CONTENT WILL INCLUDE

- A PowerPoint slide deck
- Suggested teaching methods
- Interactive class activities
- Images
- Section review questions
- Sample quiz/exam questions
- Laboratory activity ideas
- Links to other forage related websites
- Reference lists

CONCLUSION

Integrating concepts from an international team of specialists to create a Grazing Systems module will provide a unique, multi-disciplinary, multi-cultural approach to managing forage and grassland agroecosystems that will help students better understand the global implications of forage and grassland management. By having grassland scientists from several countries assist with the project it will ensure that all aspects of grassland management and international differences are considered and included.

The IF&GC is being designed to develop a standardized curriculum that covers the essential components of forage and grassland management through the participation of international experts. To provide a comprehensive curriculum, 22 modules are planned. In addition to Grazing Systems, other topics that will be included are: Introduction to Forages, Grasslands of the World, Important Forages in the World, Grasses, Legumes, Plant Identification, Forage Selection, Establishment, Weeds, Management/Physiology, Fertilization, Biological Nitrogen Fixation, Mechanically Harvested Forages, Irrigation, Forage Quality and Testing, Forage Breeding, Forage-livestock Systems, Miscellaneous Forages, Economics of Forage Systems, Forage-related Environmental Issues, and Grass-based Health. The IF&GC will serve as a comprehensive information source for forage-related classes or as supplementary teaching materials for student and faculty in the area of Forage Production and Management. Its use will lead to greater awareness and a more accurate understanding of grassland forages and livestock systems and subsequent improved land management and economic and nutritional well-being of learners and those they affect.

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