



Raising the Bar – Teaching Crop Sciences Online

May 18, 2020

Deana Namuth-Covert, PhD &
Distance Ed Guru



Zoom Orientation



Talking:

Exit Full Screen

Meeting Topic: Deana Namuth-Covert's Personal Meeting Room

Host: Deana Namuth-Covert

Invitation URL: <https://osu.zoom.us/j/5961435791>
[Copy URL](#)

Participant ID: 204683

- Select a Microphone
- ✓ Microphone (Realtek High Definition Audio)
 - Microphone (4- Microsoft LifeCam VX-5000.)
 - Same as System
- Select a Speaker
- ✓ Speakers (Realtek High Definition Audio)
 - Same as System
- Test Speaker & Microphone...
- Switch to Phone Audio...
- Leave Computer Audio
- Audio Settings...



Join Audio

Computer Audio Connected



Share Screen



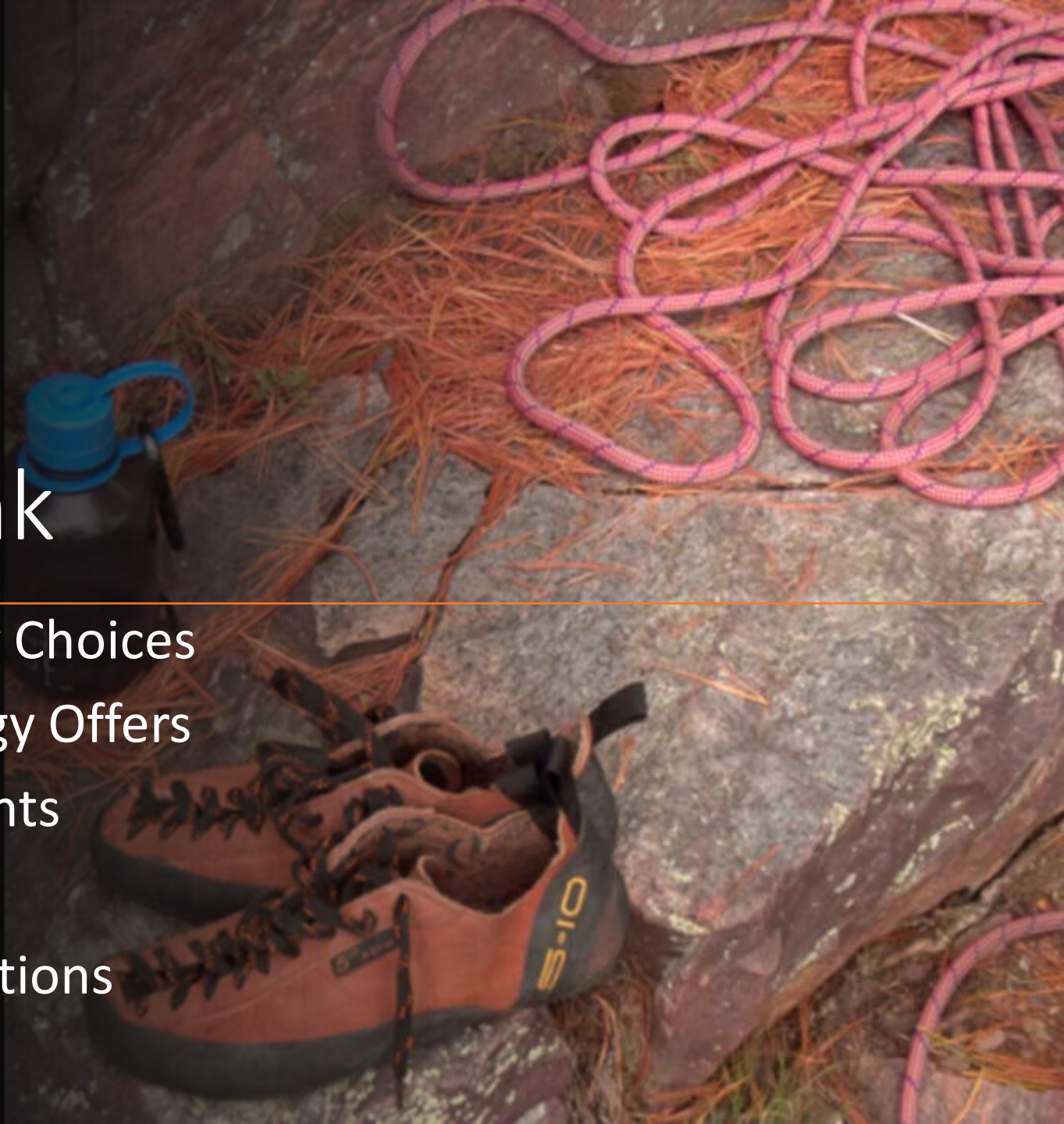
Invite Others

Reflection Question #1 – Which best describes you and your experience with educational technology?

- A. The whiteboard at the front of the room, with markers is technology, right? How about that projector system?
- B. I use a bit of technology in my oncampus classes – iPads, YouTube videos, polling system (ie Clickers, TopHat), Canvas, etc.
- C. COVID ate my lunch. I made it through, but oy, what a nightmare. Help, Deana!
- D. I have already been teaching online in some fashion and am comfortable with the basics, ready to go to the next stage.
- E. I'm a pro at this! Love this stuff! Looking for some fresh ideas.

The Top 5 – Ideas to Move the ATM out of the Bank

- Learning Goals Drive Technology Choices
- Explore Opportunities Technology Offers
- Embrace Moved Cheese Moments
- Connect with Students
- Repurpose for Multiple Applications



Learning Goals Drive Technology Choices



TOP HAT



Adobe® Connect™



- ☐ Institutionally Supported Tools
- ☐ Watch IP (Intellectual Property) Rights & Data Security

Explore Opportunities Technology Offers ...

- ❑ “Move the ATM machine” – Carol Twigg







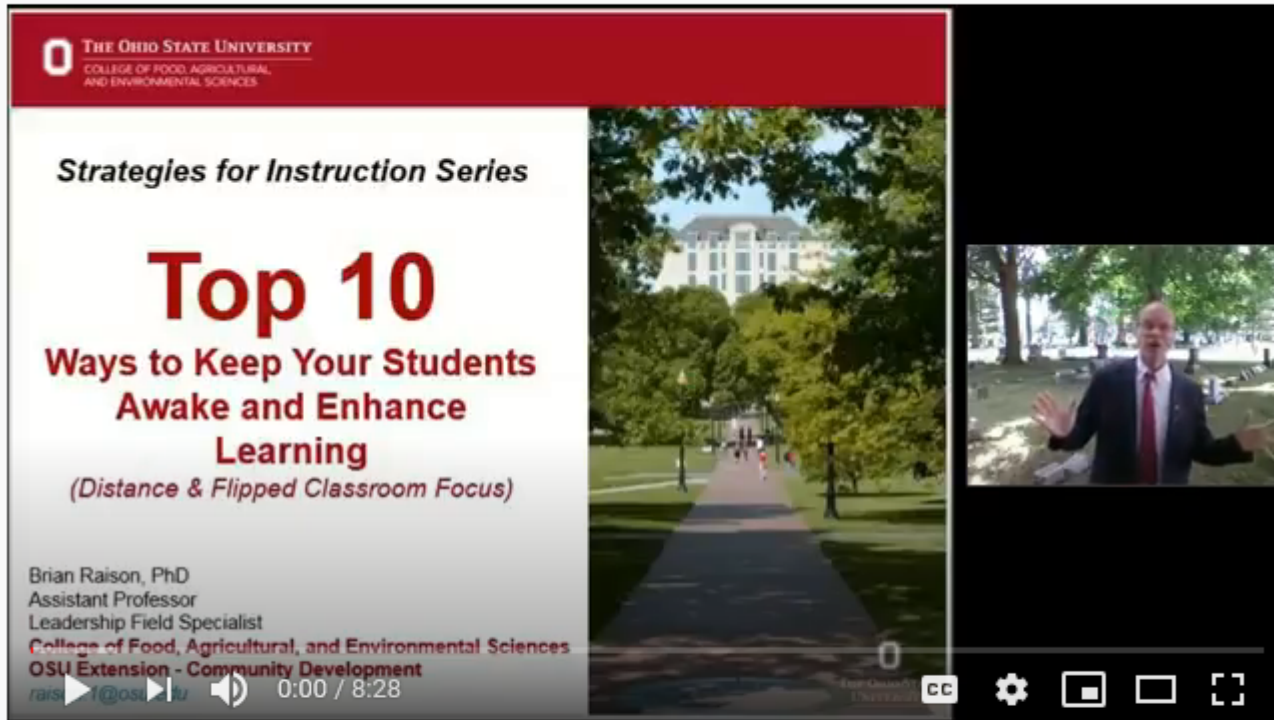
Online education is more than making classes available electronically. It's a culture change. - Deana

Reflection Question #2 – Which level of class do you teach?

- A. Intro Undergrads
- B. Advanced Undergrads
- C. Graduate
- D. Undergrad and Grad Level
- E. Extension/outreach
- F. Undergrad and Extension
- G. Grad and Extension
- H. All 3 – undergrad, grad and extension

Reflection Question #3 – Which best describes your class/extension program?

- A. Mostly lecture based
- B. Both lecture and labs/recitations
- C. Very hands-on with little lecturing



Top 10 Ways to Improve Your Lectures - Dr. Brian Raison

44 views • Jan 5, 2018

0
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 ...



Brian Raison

26 subscribers

SUBSCRIBE

Are you boring your students to death? With the increase of online and distance learning, it has become imperative to engage your students in new ways. In this video, Raison gives a

<https://www.youtube.com/watch?v=jLi0Ygg4XeQ&feature=youtu.be>

Urea vs Nutrasphere N and NH3 Volatilization



0:28 / 2:38

Scroll for details



[https://urldefense.com/v3/ https://www.youtube.com/watch?v=P3yKphHT6Lk_!!KGKeukY!mSbCSeTsYaUEXkFwvnmDAyfsos9a8of9rtmn3AtOCGUZjuL5RZ5WMdsj2tXqdVkzc_4alg\\$](https://urldefense.com/v3/__https://www.youtube.com/watch?v=P3yKphHT6Lk_!!KGKeukY!mSbCSeTsYaUEXkFwvnmDAyfsos9a8of9rtmn3AtOCGUZjuL5RZ5WMdsj2tXqdVkzc_4alg$)

2020-SPRING-Term

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Lecture 10 - Population genetics (slides + notes).pdf

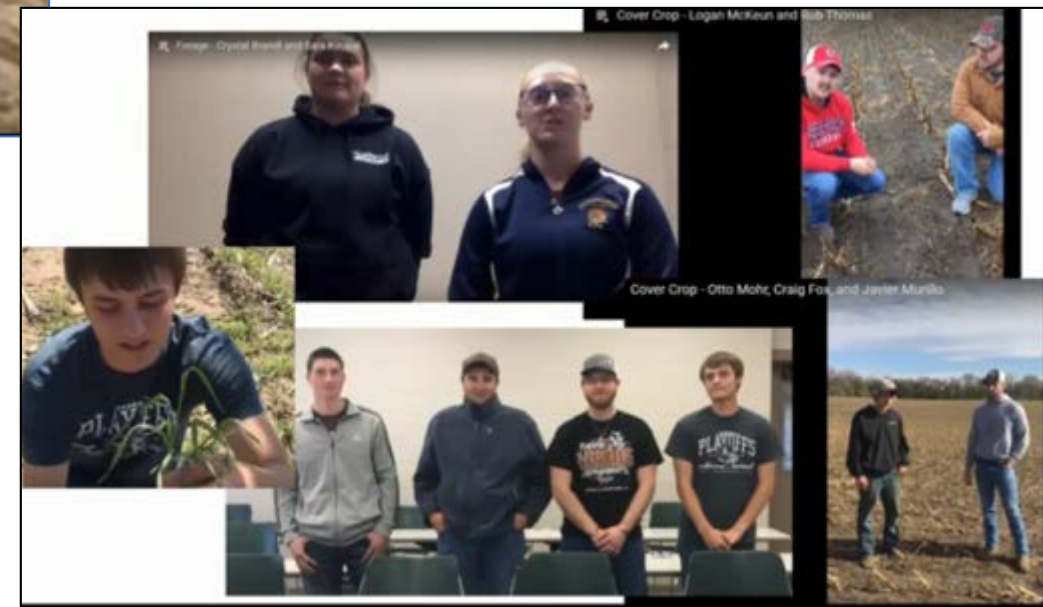
[Download Lecture 10 - Population genetics \(slides + notes\).pdf \(1.1 MB\)](#)

Lecture 10: Population genetics



SLIDE 1

- Here we are, class --- the last lecture of the semester! Whew, what a ride this has been! After this lecture you should have enough time to do the last practice homework and study for the last graded assignment (assignment 2.2). Leaving just the



https://www.youtube.com/watch?v=0tx1ViqgLSM&list=PL68k5268TgA8ntyk1-i8TLeGo_r7jJMxF

Embrace Moved Cheese Moments

10th Anniversary Edition—Now With New Material

As A-Mazing Way to Deal with Change in Your Work and in Your Life

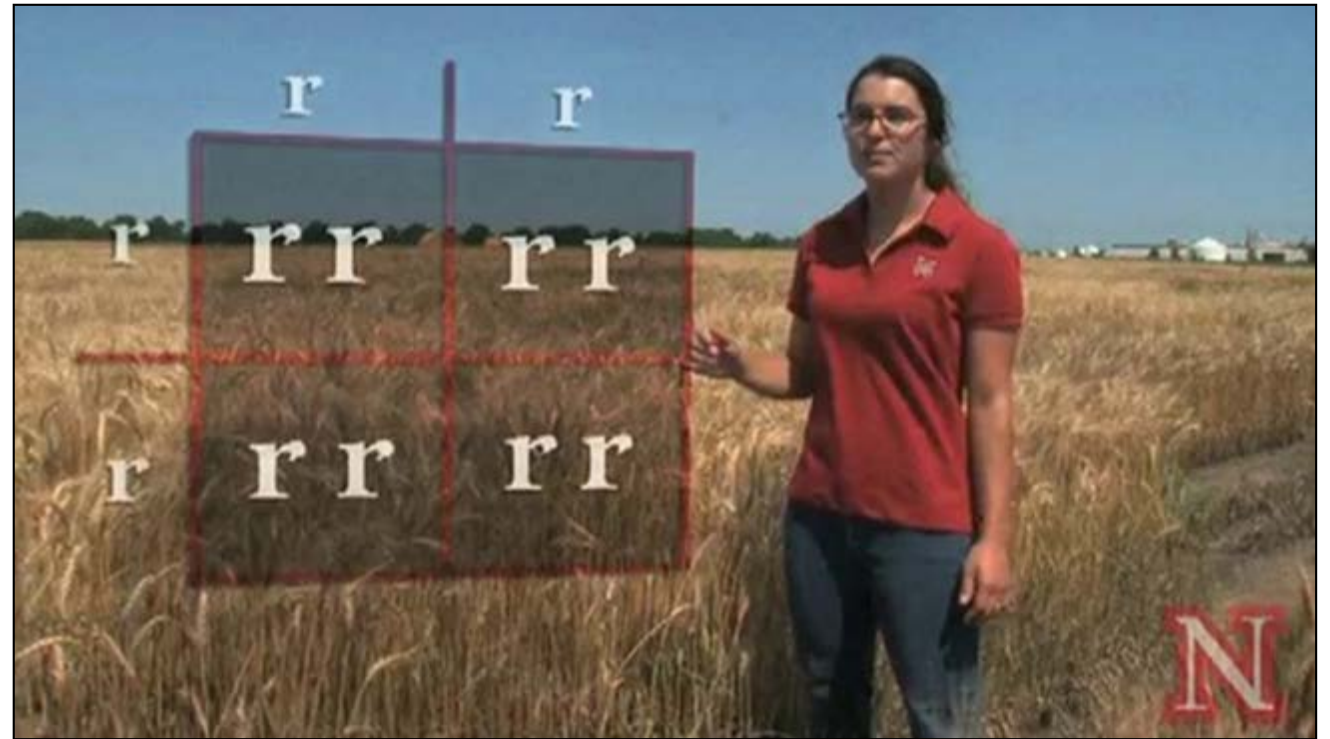
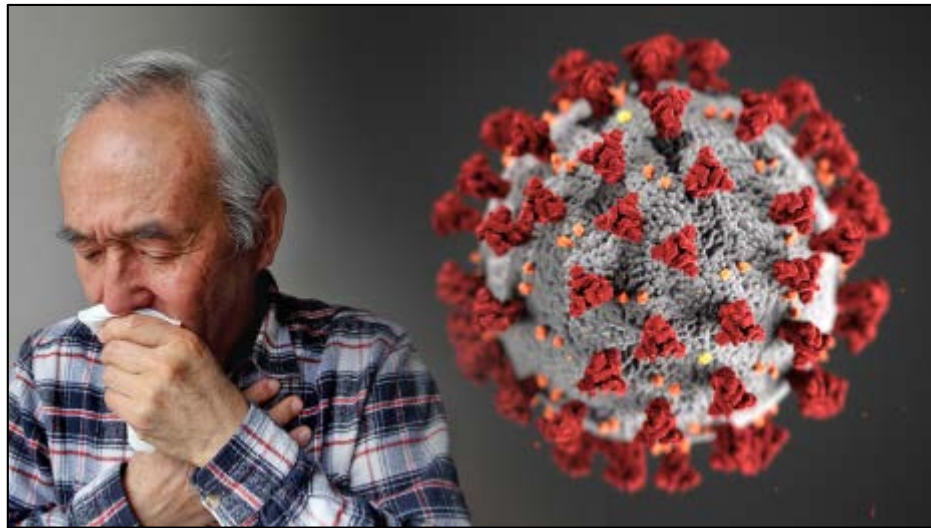
Who







Discussion Pause – Planning for possible fall COVID, part 2, any ideas coming to mind that you might like to try to move the ATM? Any videos to grab this summer? Questions?



Connect with Students

- ☐ Model “Soft Skills”
- ☐ Coach them through uncertainties
- ☐ OK to be out of “comfort zones”



This is a graded discussion: 2 points possible

due Jan 15, 2019 at 5pm

Week 1 Homework - Introduce Yourself to the Class

Introduce yourself to the class.

For full credit, include the following in your discussion board posts:

- (0.5 pt) A picture of yourself
- (0.5 pt) Tell us a little about yourself (e.g. hobbies, family, pets, etc.) and your major or career goals.
- (0.5 pt) What is something you hope to learn in class this semester?
- (0.5 pt) Reply to a classmate's post. Remember the discussion guidelines in the syllabus when making your post.

Sign up to chat with Dr. Deana. Worth 3 points. (due by Jan 18th)

Instructions to sign up on calendar:

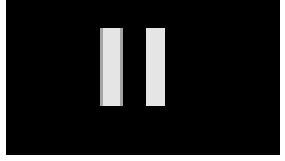
Login to Carmen and the Intro Agronomy Class.

On the left-hand side click on "calendar".

Then on the right-hand side click on "find appointments".

Click on an appointment slot you would like. Add any comments/notes for me that you want and then click "reserve".

			Zoom is down so call me if you are meeting with me today All Sections Students- Zoom is not working consistently...	 Posted on:
			Germination & plant staging experiment All Sections Students: When I posted directions earlier i...	 Posted on:
			Winter Storm All Sections Agronomy Students- As I see the weather f...	 Posted on:
			Problems Attaching Photos in Lab 2 All Sections Intro Agronomy Students- Several of you c...	 Posted on:
			Correct Answers Now Available All Sections Agronomy Students- Correct answers for ...	 Posted on:
			Lab Images All Sections	 Posted on:



Discussion Pause – Other ideas on how to connect with your students?

Repurpose for Multiple Applications

Reflection Question #4 – Which is an accurate reflection of your own situation?

- A. I have plenty of time and resources to pull off a good online course.
- B. I am stretched very thin, with lots of competing priorities. I freak out just thinking about what the fall may bring.
- C. I am somewhere in between those two extremes.

Repurpose for Multiple Applications

❑ Credit and Non-credit Audiences

 U.S. Chamber of Commerce Foundation

CENTERS BLOG TOPICS

U.S. Chamber Foundation Launches Upskill Academy to Improve Career Advancement

ECONOMIC GROWTH POSTSECONDARY EDUCATION TALENT PIPELINE MANAGEMENT WORKFORCE TRAINING

April 22, 2019

Center for Education and Workforce





Landscaping Professionals

MASTERY

Full Program (Mastery Badge)

To earn the Professional Landscape Technician Training Mastery Badge, complete all three courses in the program. To sign up for the full program, and receive the most value, register for AGBB 1020.

Self-Pollinated Plant Breeding for Professionals Module

Fall 2020: August 24 – September 25, 2020

Professional Certificate

One Unit

This module is offered for noncredit professional development.

Certified Crop Advisors (CCA) may earn 10 CEUs from this course: 9 in Crop Management and 1 in Pest Management.

Instructor

[P. Stephen Baenziger](#)

Registration

[Non-academic credit Professional Development](#) (Credit card zip code must match card owner's billing zip code.).

Description

This module discusses common breeding methods used to improve self-pollinated crops. Learners are presented with the standard



[EMAIL US](#)

Principles of Weed Control

Deana Namuth-Covert and Amy Kohmetscher

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READ BOOK

herbicide absorption into the plant's leaves, by reducing the surface tension between the herbicide droplet and the plant cuticle layer. (Clicking on the drawing will bring up a larger image to view.)

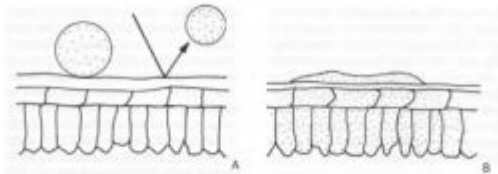


Figure 9.3 Effect of wetting agent on spread of a water-soluble herbicide over the plant surface: (A) without wetting agent, (B) with wetting agent.

Figure 13. Illustration of surfactant effects.

Review and Reflection

Surfactants are often added to herbicide in order to...

☐ retain moisture in the plant.



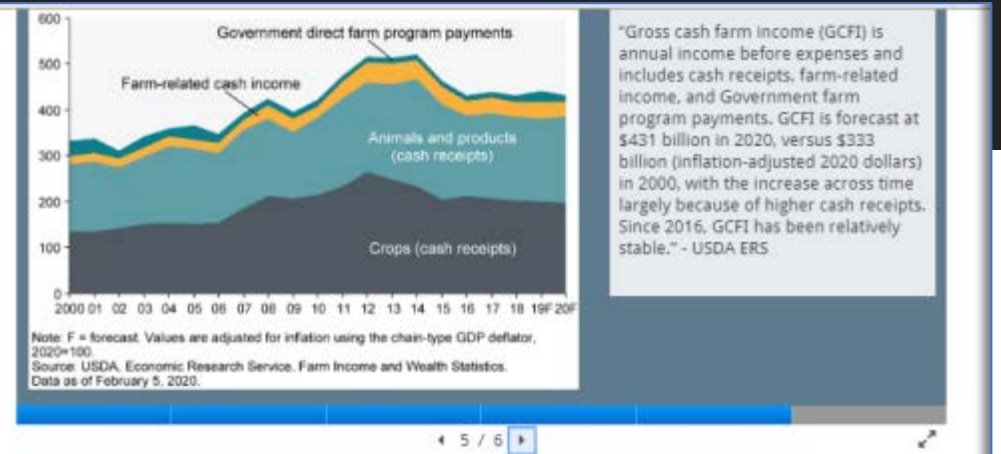
Introduction to Agriculture – Module 1: History and Importance

Deana Namuth-Covert, Kim Hostetler, Kim Sayers, and Zac Burkey



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READ BOOK



Let's pause briefly to apply the information from this page to the practice question here below.

Which is **NOT** a true statement?

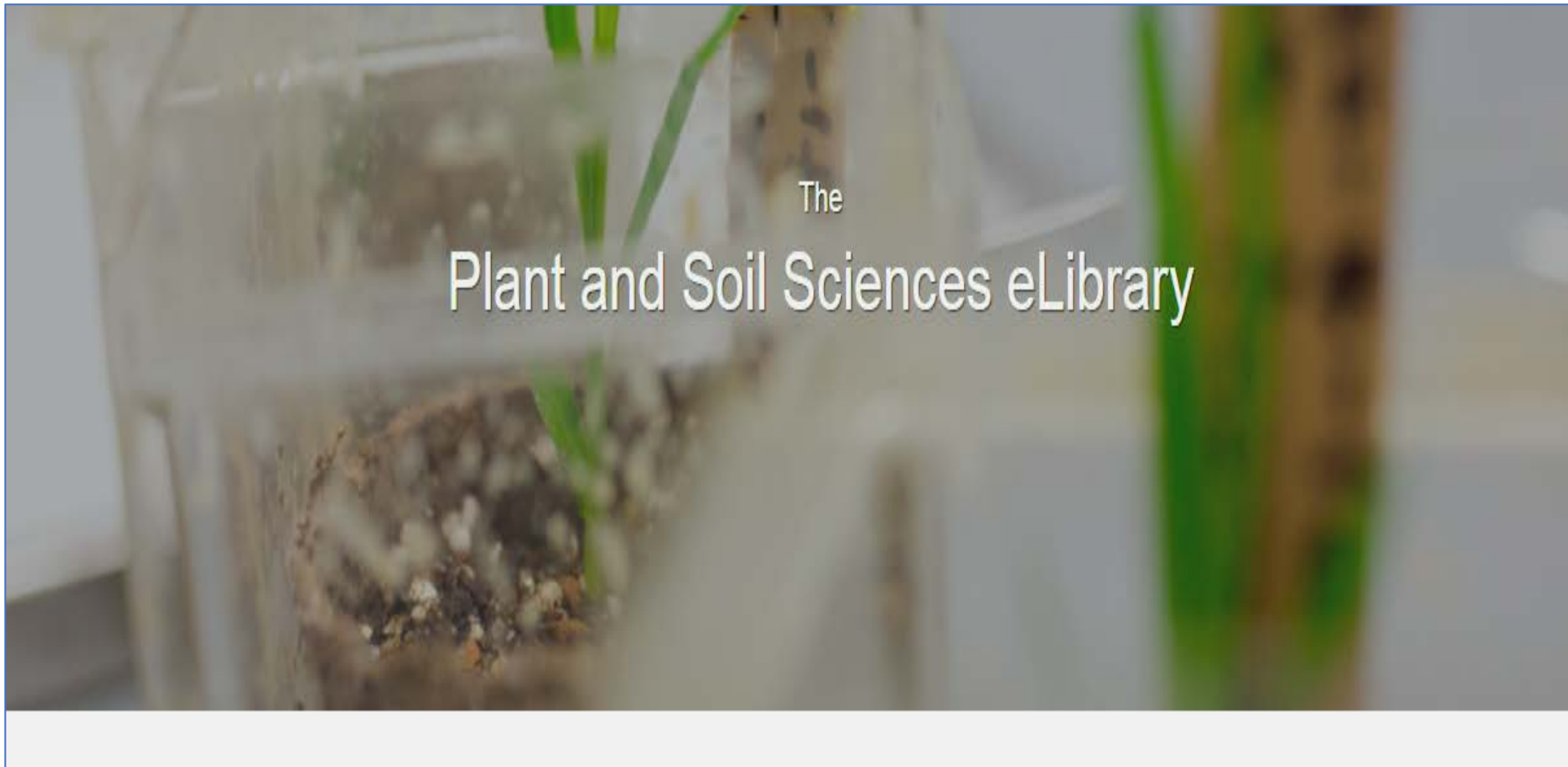
☐ Advances in the agriculture industry have in part, led to the continued growth of human populations.



Repurpose for Multiple Applications

❑ Learning Objects

N Institute of Agriculture and Natural Resources
AGRONOMY AND HORTICULTURE ONLINE



Refuge Designs with YieldGard® Rootworm Corn

Loading 

Developed by: Leah Sandall - UNL

Content direction and edits by:

Dr. Clint Pilcher - Monsanto

(Click to Continue)



This production is made possible in part through the University of Nebraska Institute of Agriculture and Natural Resources (IANR) and through funding from Monsanto Company.

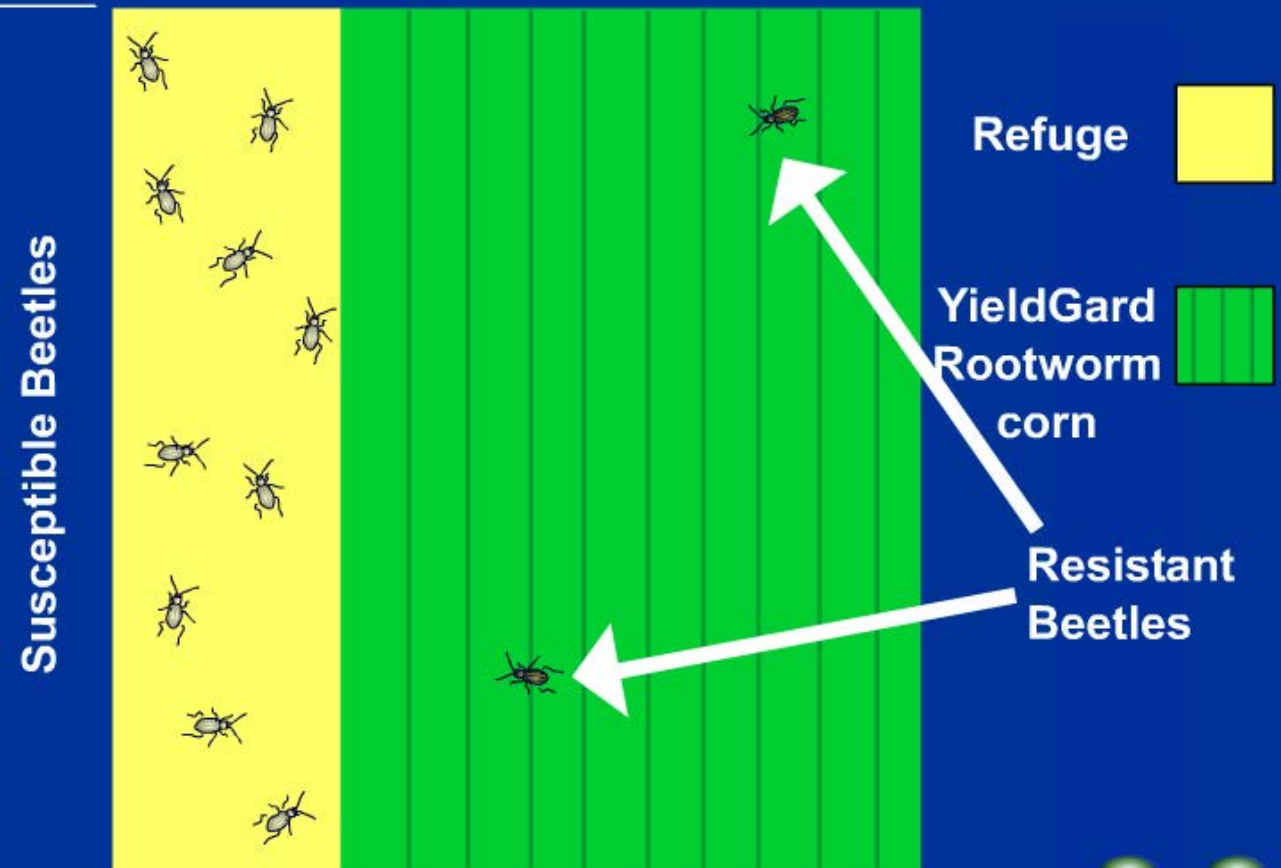
Any opinions, findings, conclusions or recommendations expressed in this series are those of the authors and do not necessarily reflect the view of IANR.



(Click to Continue)



A resistant population may develop over time if frequent matings between resistant beetles occur over several generations.



Grants...



Institute of Agriculture and Natural Resources

AGRONOMY AND HORTICULTURE ONLINE



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Understanding the effects of water stress on winter wheat in Colorado

Sarah Grogan

sarah.grogan@colostate.edu

Colorado State University



Analysis of Augmented Block Design Using R Part 2: Analyzing Treatments as Fixed Effects

Statistics! Using **R**
 χ^2 ANOVA

Authors

- Ashu Guru, Raikes School, University of Nebraska-Lincoln
- Deana Namuth-Covert, Department of Agronomy and Horticulture, University of Nebraska-Lincoln

Next Page

Plant & Soil Sciences eLibrary

Lessons Communities Media

COMMUNITY: [PLANT BREEDING TRAINING NETWORK \(PBTN\)](#) / [HOME](#)

Plant Breeding Training Network (PBTN)

Authors

- Jason Cook, Montana State University, jason.cook3@montana.edu
- Leah Sandall, University of Nebraska-Lincoln, lsandall5@unl.edu

Plant Breeding Training Network (PBTN)

Community home

PBTN Overview

- Funded by the USDA via WheatCAP
- Contact Us

Education Materials

- 2018 T3 Database Online Course
- 2018 RNA-Seq Workshop Lectures
- 2018 Positional Cloning Workshop
- Lectures



Ohio State ATI Soil Fertility Virtual

LESSON: APLICACIONES PRÁCTICAS DE LA FISIOLÓGÍA DE LOS HERBICIDAS EN LAS PLANTAS

Aplicaciones prácticas de la fisiología de los herbicidas en las plantas



Authors

- Alex R. Martin, Department of Agronomy and Horticulture, University of Nebraska-Lincoln

Grants...



Institute of Agriculture and Natural Resources

AGRONOMY AND HORTICULTURE ONLINE



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Tracy M. Sterling^{1a}, Bill Dyer^{1b}, Sarah M. Ward², Lynn Ingegneri³, Mithila Jugulam⁴, Erin Burns⁵,
Fabian Menalled^{1a}, Leah Sandall⁶, A. McKinzie Sutter⁶, Barbara Keith^{1a&1b}, and Deana Namuth-Covert⁷

^{1a}Montana State University, Dept. Land Resources and Environmental Sciences; ^{1b}Montana State University, Dept. Plant Sciences and Plant Pathology;
²Colorado State University, Dept. Soil and Crop Sciences; ³Oregon State University, Dept. Crop Sciences; ⁴Kansas State University, Dept. Agronomy;
⁵Michigan State University, Dept. Crop and Soil Sciences; ⁶University of Nebraska-Lincoln, Dept. Agronomy & Horticulture; ⁷The Ohio State University, Agricultural Technical Institute

Introduction: Graduate courses in herbicide physiology and mode of action have traditionally been taught at most land-grant universities, and this subject matter is important for students in weed science, range science, agronomy and related fields. Based on the demand from graduate students and agency/industry personnel and to address reduced availability of herbicide physiology courses offered at land-grant universities, weed science faculty with funding from USDA and NSF partnered to develop 20 interactive eLessons (11 translated into Spanish) that remain freely available for public use at University of Nebraska's Plant & Soil Sciences eLibrary (<https://psspp2.unl.edu>). Using these eLessons as a "Digital Textbook", this award-winning team. This award-winning team with diverse research, extension and teaching expertise in weed science developed and co-teach a rigorous, online, three-credit graduate-level course.

PSPP 546: Herbicide Physiology

Building on this success, an online 3-credit graduate course (PSPP 546) on herbicide physiology, mode of action, and herbicide resistance evolution was developed in 2006 by the faculty instructors at Colorado State University (Scott Nissen), Montana State University (Bill Dyer) and New Mexico State University (Tracy Sterling).

Target Audiences:
Academic and professional development students from Weed Science, Plant Physiology, Plant Biology, Land Reclamation, Ecology, Range Science, Agronomy, Integrated Pest Management, and Conservation Biology

Course Goals:

- To understand the fundamental physiology, biochemistry, and molecular biology of herbicides and their effects on plants;
- To study the physiological and evolutionary mechanisms of herbicide resistance;
- To examine the processes by which herbicides are discovered and developed for

PSPP 546 Syllabus

Weekly Units and supporting eLessons*

	eLesson User Data (2019)	# new users	# countries
1. Introduction	2559	86	
a. Herbicide Classification	253	29	
b. Herbicide Discovery and Screening			
2. Root Absorption, Xylem Translocation, & Cellular Absorption	56,850	219	
a. Transpiration: Water Movement in Plants	3688	84	
b. Root Absorption and Xylem Translocation	569	67	
c. Cellular Absorption of Herbicides			
3. Foliar Absorption and Phloem Translocation	844	82	
a. Foliar Absorption and Phloem Translocation			
4. Herbicide Metabolism	323	78	
a. Metabolism of Herbicides or Xenobiotics in Plants			
5. Herbicide Resistance Introduction	484	69	
a. Appearance of Herbicide Resistance in a Weed Population	390	255	
b. Herbicide Resistance: Mechanisms, Inheritance & Molecular Genetics			
6. Lipid Synthesis, Microtubule, and Cell Wall Inhibitors	373	56	
a. Inhibitors of Fatty Acid Synthesis and Elongation			
8. Light, Plant Pigments & Photosynthesis	2664	70	
a. The Interaction of Light with Biological Molecules	28,476	134	
b. Plant Pigments and Photosynthesis			
9. Light-Dependent Herbicide Action	3115	108	
a. Herbicides that Act through Photosynthesis			
10. Amino Acid Biosynthesis Inhibitors	8101	144	
a. Inhibitors of Aromatic Amino Acid Biosynthesis	190	34	
b. Inhibitors of Branched Chain Amino Acid Biosynthesis			
11. Auxin and Auxinic Herbicides	477	64	
a. Auxin and Auxinic Herbicide Mechanism(s) of Action – Part 1	2463	95	
b. Auxin and Auxinic Herbicide Mechanism(s) of Action – Part 2			
12. Population Genetics; Herbicide Resistance Implications			
a. Overview of Plant Genetic Engineering			
13. Eco-evolutionary Herbicide Resistance Management			
a. Practical Applications	1103	84	
b. Practical Applications of Herbicide Physiology			

PSPP 546: Demographics

PSPP 546 Student Status 2006-2018 (n = 10)

PSPP 546 Student Status 2006-2018 (n = 10)

No. Degree-seeking Students from each University and No. of Non-Degree-seeking Students per Institution 2006-2018

eLessons: Demographics

Countries Accessing eLessons in 2018

Awards:

*The indicated eLessons are used in the "Digital Textbook" for PSPP 546. Each eLesson requires up to 30 minutes to complete, and contains content-based text, images and video clips, animations, practice quiz questions and graded question banks. All are housed at University of Nebraska's Plant & Soil Sciences eLibrary (<https://psspp2.unl.edu>) for free public use.



STUDENTS' APPROACHES TO E-LEARNING: ANALYZING CREDIT/NONCREDIT AND HIGH/LOW PERFORMERS

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CLUSTER ANALYSIS FOR NONCREDIT LEARNERS

Figure 4 presents graphical results of the cluster analysis for the noncredit learners, which identifies Cluster #5 as being the high scorers and Cluster #7 as the low scorers. Following selection procedures used with credit learners, the high scorers were selected based on the few number of quizzes taken and low standard deviation in scores.

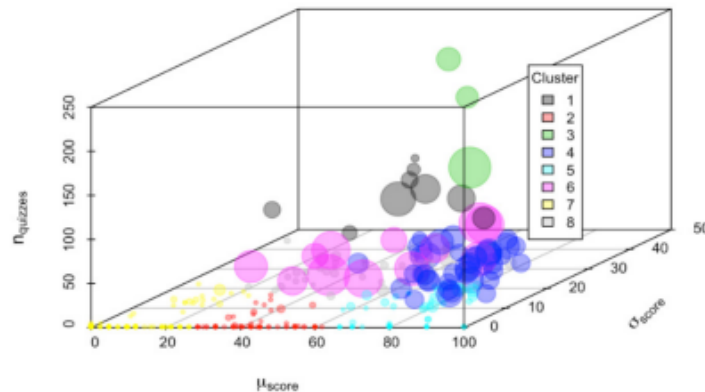


Figure 4. Cluster analysis of noncredit learners identifying cluster 5 as high and cluster 7 as low quiz scoring, where n = number of quizzes taken, μ = average score achieved on those quizzes and σ = standard deviation of the quiz scores. The size of each bubble varies by the number of unique quizzes an individual person took.

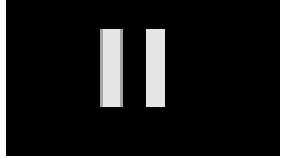
Educational Research – Strength of Academia & Opportunities for Upskilling

Interactive Digital Book Student Use Compared with Recorded Lecture Segments in Two Flipped Undergraduate Agriculture Science Courses

Deana Namuth-Covert,¹ Amy Kohmetscher² and Kelvin Trefz³

The Ohio State University

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Discussion Pause – Ideas on how to meet multiple objectives with your teaching efforts?





Thank you!