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| **Course Title:** Pasture Management | | | **Developer:** James Donaldson |
| **Date:** 10/1/13 | **Course Number:**  SLF 150 | **Term Course Launches:**  Spring 2014 | **School:**  John Wood CC |

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| **Pasture Management** | |
| **Course overview here:**  This course introduces students to principles and practices of pasture management. Topics include soil management practices, forage crop growth, and forage quality for common types of livestock. Focus is on small scale production for niche markets. Upon completion, students will have the knowledge and skills to develop a pasture management plan to sustainably produce high quality forage. | |
| **Course**  **Image:** | C:\Users\Kristin\Dropbox\SLF_150_Pasture Management\SLF 150_Pasture Management\Images\Course Home.png |
| **Image**  **Attribution** | 9356600221_7519489bb8_t  “Barn and Hayfeeder” by GA-Kayaker CC BY 2.0  <http://www.flickr.com/photos/ga-kayaker/9356600221/>  Barn Hayfeeder.jpeg  3114411996_e175c56d88_t  “Grazing sheep” by Mihnea Stanciu CC BY 2.0  <http://www.flickr.com/photos/fallout/3114411996/>  SheepFence.jpeg  9305896234_9b83b5749e_t “20130712-AMS-LSC-0330.jpg” by U.S. Department of Agriculture CC BY 2.0 <http://www.flickr.com/photos/usdagov/9305896234/>  TractorFence.jpeg |
| **Course**  **Outcomes** | **By the end of this course, you should be able to:**   * Perform a soil test. * Analyze soil test results. * Determine fertilizer and amendment rates in response to soil test results. * Identify appropriate timing of fertilizer and amendment applications. * Describe pasture management and use patterns which damage soil quality. * Identify forage species common in Midwest pasture. * Describe the role of legumes in maintaining soil fertility. * Select appropriate forage species for particular livestock types. * Estimate dry matter yield of the forage species and mixed pasture types studied. * Differentiate between perennial and annual forage species. * Describe growth patterns of forage species. * Identify weed species common to Midwest pastureland. * Identify weed management strategies. * Evaluate the duration that a given pasture should be grazed based on environmental conditions and stocking rate. * Determine the appropriate stocking rate, given the size of the pasture and type of livestock. * Formulate seed mixes for pasture. * Identify tools and equipment used for pasture management. * Describe all appropriate methods of planting and establishing the forage species studied. * Identify appropriate timing for seeding the forage species studied. * Identify appropriate seed rates for the forage species studied. * Develop a grazing rotation for a real or hypothetical pasture-based livestock operation. * Develop a comprehensive pasture management plan for a real or hypothetical pasture-based livestock operation. |
| **Syllabus** | Below is the course syllabus that outlines our 8 week course as well as describes the course goals, expectations and grading system. Please print a copy to refer to throughout the course term. |
| **Links/Uploads** | SLF 150\_PastureMgmt\_Syllabus.doc |
| **Grading** | |  |  |  | | --- | --- | --- | | **Points Summary** | **Points** | **%** | | Assignments (25 pts each) | 200 | 40% | | Discussion Board (15 pts each) | 105 | 21% | | Quizzes (10 pts each) | 70 | 14% | | Final Project (150 pts) | 125 | 25% | | **Total** | **500** | **100%** |   The final letter grade will be determined according to the following scale:  Scale: A 90-100%  B 80-89%  C 70-79%  D 60-69%  F ……59% and below |
| **Links/Uploads** |  |
| **Instructor Contact Information** | Instructor:  Email:  Telephone:  Skype #:  Availability:  *To access the Virtual Office, click on the link in the left hand content window at the time of your appointment* |
| **Course Materials** | Open access websites will be used as well as online materials posted by the instructor. |
| **Home Page**  **Announcements** | **Welcome Message:**  Welcome to SLF 150 Pasture Management! In this class we will be learning about different principles and practices of pasture management including topics like soil management, forage growth and quality, pasture stocking rates, calculating yield and pasture equipment and maintenance. This class was designed to help introduce you to best practices in pasture management so that you can decide which ones might work best for you.  As class begins, you should become familiar with the course syllabus as it describes the class in full detail and informs you of other course requirements and materials you need to complete the course. Also remember to login to the class consistently to stay up-to-date on any news and information that may be posted by the instructor.  **Please Note:** Instead of a final class exam you will be required to complete a final project for this class. More information on the project and what you will need to prepare will be given during our live lecture during week two of this class. Attendance to that lecture is very important! Please plan accordingly.  Once again, welcome to the class! I look forward to working with all of you. |
| **General Class Discussion Board** | This discussion board is for you to post any questions you might have concerning general course content or to post resources and information you find that you want to share with the rest of the class.  Remember to keep the content you post with the theme of the class! Do not post jokes or pictures that you might post on a Facebook page. This area is to post helpful resources you might see that you think will help your fellow classmates with their future agriculture goals.  Also remember this is a discussion board that everyone can see! If you have a question regarding grades or have specific questions regarding one of your personal assignments it is best not to post that question here but rather contact the instructor personally with your questions. |

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| **Unit 1** | |
| **Title** | **Introduction to Soil Types and Structure** |
| **Landing Page**  **Image** | C:\Users\Kristin\Dropbox\SLF_150_Pasture Management\SLF 150_Pasture Management\Images\Course Home and Landing Page Images\Unit One Landing.png  Unit One Landing.png |
| **Image/Image**  **Attribution** | 5035124764_ecd47b8286_t  “Cows” by Lee Cannon CC BY-SA 2.0  <http://www.flickr.com/photos/leecannon/5035124764/>  Grazing Green.jpeg  http://farm4.staticflickr.com/3276/2646211457_5aef2f9635_t.jpg  “Red-spotted Purple-Limenitis arthemis astyanax by Topato CC BY 2.0  <http://www.flickr.com/photos/roadhunter/2646211457/>  Butterfly on Loam Soil.jpeg  7166253549_7e1d8c72c8_t  “Healthy Soil 3” by USDA NRCS South Dakota CCBY-SA 2.0  <http://www.flickr.com/photos/nrcs_south_dakota/7166253549/>  Happy Soil.jpeg  http://farm9.staticflickr.com/8446/7882759646_7876112e0a_t.jpg  “Soil Days at Philip, SD June 2012” by USDA NRCS South Dakota CC BY-SA 2.0  <http://www.flickr.com/photos/nrcs_south_dakota/7882759646/>  Pasture Group.jpeg |
| **Content**  **Overview** | In this unit you will learn about the soil testing process, understand the different types of soil and soil structures and analyze what pasture management means to you. |
| **Objectives** | In this unit you should:   * Perform a soil test. * Describe pasture management and use patterns which damage soil quality |
| **Outcomes** | * Understand steps and process of soil testing. * Identify different types of soil. * Identify different soil structures. * Describe pasture management. * Learn patterns which damage soil quality. |
| **To-Do-List** | 1. View the Power Point: “Introduction to Soil Types, Structure and Pasture Management” 2. Watch the short video “Collecting Soil Samples: From the Ground Up” 3. Complete the Discussion Board “What is Pasture Management to You?” (15pts) 4. Complete the Dropbox Assignment: “SOIL LAB: Perform Your Soil Test” (Part One and Part Two) (25 pts) 5. Take the Quiz over the readings (10 pts) |
| **Links/Uploads** | *SLF 125\_Unit One Instructions.doc* |
| **Unit 1 Activities** | |
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| **Power Point** | **“Introduction to Soil Types, Structure and Pasture Management”** |
| **Content** | View the Power Point “Introduction to Soil Types, Structure and Pasture Management” |
| **Links/Uploads** | *Unit One Power Point.pptx* |
| **Content Atributions** | * Boundless.com – Biology- Chapter 46 Plant Nutrition- (section 2) Soil Ecosystem – “Lignin to Humus” * Boundless.com – Biology – Chapter 46 Plant Nutrition- (section 2) Soil Ecosystem – “Role of Soil Conservation in Sustainable Agriculture” * Boundless.com – Biology – Chapter 46 Plant Nutrition- (section 2) Soil Ecosystem – “Texture of Soil” * Boundless.com – Biology – Chapter 46 Plant Nutrition- (section 2) Soil Ecosystem – “Organic Components of Soil” * Jim Donaldson, course developer |
| **Image/Image Attributions** | http://farm1.staticflickr.com/58/227607861_be247ec2ce_t.jpg  “Harvested Grass Seed field” by born1945 CC BY 2.0 <http://www.flickr.com/photos/12567713@N00/227607861/>  Harvested Grass Field.jpeg  http://farm5.staticflickr.com/4112/5094929872_f7538e430c_t.jpg  “Soil Scientist at Work (4)” BY Soil Science CC BY 2.0 <http://www.flickr.com/photos/soilscience/5094929872/>  Soil Horizon.jpeg  http://farm3.staticflickr.com/2644/3995160332_0dfd184a8c_t.jpg  “Managed Meadow (Annually mowed in spring) at Cherokee Park” by mightyjoepye CC BY 2.0<http://www.flickr.com/photos/mightyjoepye/3995160332/>  Cheat Brome and Orchard Grass.jpeg  http://farm9.staticflickr.com/8180/8053617246_c34a5ccaeb_t.jpg  “Soil Pores In Healthy Soil” by NRCS Soil Health CC BY 2.0 [http://www.flickr.com/photos/87743206@N04/8053617246/Healthy Soil.jpeg](http://www.flickr.com/photos/87743206@N04/8053617246/Healthy%20Soil.jpeg)  Healthy Soil.jpeg  http://farm3.staticflickr.com/2092/2092230152_cf00081a57_t.jpg  “Soil Centipede” by Matt Reinbold CC BY-SA 2.0  <http://www.flickr.com/photos/furryscalyman/2092230152/>  Soil Centipede.jpeg  https://figures.boundless.com/4ff32ba8246b709a9cd79947/large/soil-profile.png  “soil-profile” Boundless.com – Biology – Chapter 46 Plant Nutrition- (section 2) Soil Ecosystem – “Texture of Soil” <http://commons.wikimedia.org/wiki/File:Soil_profile.png>  soil-profile.png    “tera-pera” Boundless.com – Biology – Chapter 46 Plant Nutrition- (section 2) Soil Ecosystem – “Organic Components of Soil” <http://commons.wikimedia.org/wiki/File:Terra_Preta.jpg>  terra-preta.jpeg  9316804120_e8ce6ccdfc_t  “Soybean Field with Healthy Soil” by USDA NRCS South Dakota CC BY-SA 2.0  <http://www.flickr.com/photos/nrcs_south_dakota/9316804120/>  Soil Tube.jpeg  3657263606_8f54d9ef26_t  “Soil Testing” by Texas A&M Cushing Memorial Library and Archives CC BY 2.0  <http://www.flickr.com/photos/cushinglibrary/3657263606/>  Soil Testing.jpeg  8465155025_44a859b1d1_t  “Tommy Soil Pressure Test No Till2 LR” by U.S. Department of Agriculture (USDA) CC BY 2.0  <http://www.flickr.com/photos/usdagov/8465155025/>  NoTill Soil Test.jpeg |
| **Video** | **“Collecting Soil Samples: From the Ground Up”** |
| **Content** | Watch the video“Collecting Soil Samples: From the Ground Up” <http://www.youtube.com/watch?v=3he8yFg7YX8> .This video will show you a simple method of collecting a soil sample. |
| **Content Attribution** | University of Wyoming Extension Horticulture. Produced by: David Keto - Extension Media Producer [Creative Commons Attribution license](http://www.youtube.com/t/creative_commons" \t "_blank) (reuse allowed) |
| **Quiz** | **Unit One Quiz** |
| **Content** | *Select the answer that best fits the question given.* (worth 10 points)   1. A good pasture management decision you can make is to: 2. Over graze 3. Encourage legumes ( correct 2 pts) 4. Never fertilize 5. Avoid applying lime 6. Which of the following best describes soil? 7. Dynamic and changing 8. Weathered inorganic rock material 9. Composed of mineral and organic material 10. All of the above (correct 2 pts) 11. It is important to match forage species traits with soil characteristics and pasture usage (true / false) (true) (2 pts) 12. Soil has horizontal layers which are called: 13. Horizons (correct 2 pts) 14. Layers 15. Subzones 16. Landscapes 17. Soil management becomes more successful when: 18. Fertilizers are always used 19. People understand which properties can be changed and which properties cannot be changed (correct 2 pts) 20. Soil is left alone 21. An expensive management system is put into place |
| **Content**  **Attributions** | James Donaldson, course developer |
| **Discussion Board** | **“What is Pasture Management to You?”** |
| **Content** | For this discussion board reflect on what you have read for this week and formulate your own personal definition of pasture management. Then think about what it means to you and your personal ambitions in farming. Post your definition, views on pasture management and how you think it will apply to your present/future farming operation to the discussion board. This post is worth (15 points). |
| **Dropbox Assignment** | **SOIL LAB: Perform Your Soil Test** (Part One and Part Two) |
| **Image** | http://farm8.staticflickr.com/7371/10059246656_a4c72b3e8d_t.jpg |
| **Image Attribution** | “Soil Ecology Course” by University of Michigan School of Natural Resources and Environment CC By 2.0  <http://www.flickr.com/photos/snre/10059246656/>  Soil Gazing.jpeg |
| **Content** | This assignment has two parts. Part one is to complete your own soil test. After viewing the video “Collecting Soil Samples; From the Ground Up” and viewing the Power Point “Introduction to Soil Types, Structure and Pasture Management” complete your own soil test and submit your sample to your own area extension center.  Before you begin you should call your local extension center for current fees and services information and request an interpretation of your soil test results. Be sure to inquire about what types of soil samples your lab accepts. Some labs may not take agriculture pasture samples but take regular backyard or garden samples. Depending on your particular soil sample you need to find a lab to suit your needs and location. Also find out testing costs and how long it will take to get your sample results. Often labs will provide sample bags for you before you take your soil test if you call to request sampling information. Then you are ready to take your soil sample. You may sample soil from your own farm, a farm you have access to or even your own back yard.  For part two of the assignment write a report of your process and findings. Then submit to the Dropbox. Be sure to include the following information in your report:   1. The name of the location where you took your soil sample. 2. The name and address of your local extension center. 3. Current fees and services they offer 4. Sampling services they offer 5. How long it will take to get your soil sample interpretation results   This assignment is worth 25 points.  **(Please Note: You will be using your soil test results for your final project in this class so keep track of them once you receive them back from your lab!)** |
| **Content**  **Attribution** | James Donaldson, course developer |
| **Links/Uploads** | *Unit One Assignment.pdf* |
| **Announcements** |  |

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| **Unit 2** | |
| **Title** | **Soil Fertility** |
| **Landing Page**  **Image** | C:\Users\Kristin\Dropbox\SLF_150_Pasture Management\SLF 150_Pasture Management\Images\Course Home and Landing Page Images\Unit Two Landing.png Unit Two Landing.png |
| **Image/Image**  **Attribution** | 4617875064_91da4ba17c_t  “Fertilizer” by Thirteen of Clubs CC BY-SA 2.0  <http://www.flickr.com/photos/thirteenofclubs/4617875064/>  Fertilizer.jpeg  http://farm9.staticflickr.com/8180/8053617246_c34a5ccaeb_t.jpg  “Soil Pores In Healthy Soil” by NRCS Soil Health CC BY 2.0 <http://www.flickr.com/photos/87743206@N04/8053617246/>  Healthy Soil.jpeg  3821064072_2bc442d3c2_t  “Schedonorus pratensis” by Matt Levin CC BY-SA 2.0  <http://www.flickr.com/photos/plant_diversity/3821064072/>  Grass Mix.jpeg  4617875064_91da4ba17c_t  “Fertilizer” by Thirteen of Clubs CC BY-SA 2.0  <http://www.flickr.com/photos/thirteenofclubs/4617875064/>  Fertilizer.jpeg |
| **Content**  **Overview** | In this unit you will learn how to read and understand a soil test report, determine appropriate timing and application for fertilizers as well as understand the importance of legumes in maintaining the soil. |
| **Objectives** | In this unit you should:   * Analyze soil test results * Determine fertilizer and amendment rates in response to soil test results. * Identify appropriate timing of fertilizer and amendment applications. * Describe the role of legumes in maintaining soil fertility. |
| **Outcomes** | * Understand soil test results and fertilizer/amendment rates in response to soil test results. * Learn appropriate timing and application of fertilizer and amendments. * Know the role of legumes in maintaining soil. |
| **To-Do-List** | 1. View the Power Point: “Interpreting Soil Tests, Applying Fertilizer and Role of Legumes in Soil Maintenance” 2. Watch the video: “Soil Health Study: Grazing Management and Infiltration” 3. Attend Live Seminar 4. Complete the Discussion Board “Loving Legumes” (15pts) 5. Complete the Dropbox Assignment “Decoding the Soil Test” (25 pts) 6. Take the Quiz over the readings (10 pts) |
| **Links/Uploads** | *SLF 125\_Unit Two Instructions.pdf* |
| **Unit 2 Activities** | |
| **Power Point** | **“Interpreting Soil Tests, Applying Fertilizer and Role of Legumes in Soil Maintenance”** |
| **Content** | View the power point content “Interpreting Soil Tests, Applying Fertilizer and Role of Legumes in Soil Maintenance” |
| **Links/Uploads** | *Unit Two Power Point.pptx* |
| **Content Attribution** | James Donaldson, course developer  Boundless.com – Biology – Chapter 46 Plant Nutrition- (section 2) Soil Ecosystem – “Fertilization”  Boundless.com – Biology – Chapter 46 Plant Nutrition- (section 2) Soil Ecosystem – “Soil PH Adjustment”  Boundless.com – Biology – Chapter 46 Plant Nutrition- (section 2) Soil Ecosystem – “Control Soil Erosion” |
| **Image/Image Attribution** | 3478752900_1d24182ed2_t  “Pea plants” by Linda N. CC BY 2.0  <http://www.flickr.com/photos/22748341@N00/3478752900/>  Baby Pea Plants.jpeg  “Pea plants” by Linda N. CC BY 2.0  <http://www.flickr.com/photos/22748341@N00/3478752900/>  Baby Pea Plants.jpeg  5094937726_ca401869a8_t  “Soil Scientists at Work (4)” by Soil Science CC BY 2.0  <http://www.flickr.com/photos/soilscience/5094937726/>  Soil Pit.jpeg  http://farm5.staticflickr.com/4021/4617875064_91da4ba17c_t.jpg  “Fertilizer” by Thirteen of Clubs CC BY-SA 2.0  <http://www.flickr.com/photos/thirteenofclubs/4617875064/>  Fertilizer.jpeg  http://farm8.staticflickr.com/7161/6726228729_275aa4f9eb_t.jpg  “Soybeans” by wattpublishing CC BY 2.0  <http://www.flickr.com/photos/wattagnet/6726228729/>  Soybeans.jpeg  http://farm5.staticflickr.com/4024/4672993616_2a1d31867b_t.jpg  “Red Clover” by John B. CC BY 2.0  <http://www.flickr.com/photos/dendroica/4672993616/>  Redclover.jpeg |
| **Video** | **“Soil Health Study: Grazing Management and Infiltration”** |
| **Content** | View the video“Soil Health Study: Grazing Management and Infiltration” by following the link:  <http://www.youtube.com/watch?v=IqB4z7lGzsg>.  In this video you will see the effects of different grazing methods on soil and see how an infiltration test is done. Side by side comparisons of the soil samples are done to help you see how soil is negatively affected. |
| **Content Attribution** | “Soil Health Study: Grazing Management and Infiltration” by USDA NRCS South Dakota  [Creative Commons Attribution license](http://www.youtube.com/t/creative_commons" \t "_blank) (reuse allowed) |
| **Links/Uploads** | <http://www.youtube.com/watch?v=IqB4z7lGzsg>. |
| **Live Seminar (Big Blue Button)** | **“Welcome to Class and Introduction to Final Project”** |
| **Content** | Purpose: Give introduction to class and overview as well as introduce final project assignment sheet. (attached as document) |
| **Content Attribution** | James Donaldson, course developer |
| **Links/Uploads** | *Final Project Assignment Sheet.doc* |
| **Quiz** | **Unit Two Quiz** |
| **Content** | *Select the answer that best fits the question given.* (worth 10 points)   1. Soil test results can make recommendations on changing what levels in your soil? 2. Oxygen 3. Phosphate (correct 2 pts) 4. Water 5. Helium 6. Timing and application of fertilizer can depend on type of forage or crop being used. (true/false) 7. True (correct, 2pts) 8. False 9. Legumes are a group of plants including alfalfa, clover and beans that are able to convert ­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into a form used by plants and animals? 10. Oxygen 11. Nitrogen (correct 2 pts) 12. Crops 13. Water 14. Which of the following are benefits of Legumes? 15. Provide excellent forage 16. Help build soil nutrients 17. Provide good cover 18. All of the above (correct 2 pts) 19. Types of Perennial Legumes are alfalfa and red clover (true/false) 20. True (correct, 2 pts) 21. False |
| **Content**  **Attributions** | Jim Donaldson, course developer |
| **Discussion Board** | **“Loving Legumes”** |
| **Content** | For this discussion post please answer the following questions. To get your answers you should pull from the reading for this week as well as do a little research on your own. This research could include talking to farmers in your area and an internet search on the topic. Respond to at least one classmates post by giving feedback, posing new questions about what they have written and/or offering your praise or criticisms. Be sure to go beyond simply stating things like “I like your post” or “I agree with you.” Tell why you agree or disagree.   1. How do farmers in your area use legumes? 2. What do you believe are some of the best uses of legumes? 3. How do you see yourself using legumes on your future farm? |
| **Dropbox Assignment** | **“Decoding the Soil Test”** |
| **Image** | 3107470043_f996975273_t |
| **Image Attribution** | “Eye-glass, Spy-glass” by Howard Lewis Ship CC BY-SA 2.0  <http://www.flickr.com/photos/hlship/3107470043/>  Eye Glasses.jpeg |
| **Content** | Since you do not have your own soil test results back from your assignment in Unit One, for this assignment you will study an example soil test to practice interpreting a soil test report.  **(Please Note: You will be using your own soil test results for your final project in this class so keep track of them!)**  To access an example soil test go to the University of Minnesota Extension site located at the following link: <http://soiltest.cfans.umn.edu/understanding-your-report/agronomic-crops/> . Scroll down the page until you find the “Example Soil Test Report” and click on the underlined PDF link. Carefully read the report looking at each box and the numbered comments at the end. After you have read the report answer the questions below using the information provided on the report. Upload to the Dropbox. This exercise is to help you practice reading and understanding a soil report.  1. According to the soil test results what is the estimated soil texture for this particular soil?  2. According to the soil test results what is the PH level and Potassium level for this particular soil?  3. What low levels are comments 8 and 9 referring to?  4. What does comment 15 recommend?  5. Choose an additional comment and explain it in your own words. |
| **Content**  **Attribution** | James Donaldson, course developer |
| **Links/Uploads** | *Unit Two Assignment.pdf* |
| **Announcements** | **For more information** on interpreting soil test results visit the University of Arkansas Division of Agriculture Research and Extension for an in depth look at how to understand the numbers of your soil tests. LINK: <http://www.uaex.edu/Other_Areas/publications/pdf/FSA-2118.pdf>.  **For more information** on fertilizer recommendations visit the Purdue University Extension. LINK: “Tri-State Fertilizer Recommendations for Corn, Soybeans, Wheat and Alfalfa” <http://www.extension.purdue.edu/extmedia/AY/AY-9-32.pdf> |

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| **Unit 3** | |
| **Title** | **Forage Species and Weeds** |
| **Landing Page**  **Image** | C:\Users\Kristin\Dropbox\SLF_150_Pasture Management\SLF 150_Pasture Management\Images\Course Home and Landing Page Images\Unit Three Landing.png Unit Three Landing.png |
| **Image/Image**  **Attribution** | 4840982575_d368b2eb21_t  “Horses Grazing” by Rennet Stowe CC BY 2.0  <http://www.flickr.com/photos/tomsaint/4840982575/>  HorsesGrazing.jpeg  2681167650_fc0f12fe3f_t  “Sheep Grazing” by Martin Pettitt CC BY 2.0  <http://www.flickr.com/photos/mdpettitt/2681167650/>  SheepGrazing.jpeg  http://farm4.staticflickr.com/3275/2919611022_dd336d5e33_t.jpg  “Grazing cows/Lekker grazen by Hans Dinkelberg CC BY 2.0  <http://www.flickr.com/photos/uitdragerij/2919611022/>  GrazingCows.jpeg  3735208498_f4b452efdc_t  “Ol’ Lazy Eye” by Robb North CC BY 2.0  <http://www.flickr.com/photos/robbn1/3735208498/>  OldTractor.jpeg |
| **Content**  **Overview** | In this unit you will learn all about different types of forage species and weed species common to Midwest pastureland. You will identify types of grasses and weeds as well as learn weed management strategies to use on problem weeds. |
| **Objectives** | In this unit you should:   * Select appropriate forage species for particular livestock types. * Differentiate between perennial and annual forage species. * Describe growth patterns of forage species. * Identify weed species common to Midwest pastureland. * Identify weed management strategies. |
| **Outcomes** | * Understand and identify different types of plant forage species that match specific livestock. * Explain different growth patterns of plant forage species. * Identify weed species and appropriate management of them. |
| **To-Do-List** | 1. Read the article “Hay and Pasture” (pages 10 -17) (start at the end of page 10 “Selecting Hay and Pasture Species”) by Jim Morrison from the Rockford Illinois Extension Center 2. View the Power Point: “Weed Identification Guide” 3. Complete the Discussion Board “Crabgrass Anyone?” (15pts) 4. Complete the Dropbox Assignment “Identify Your Weeds” (25 pts) 5. Take the Quiz over the reading (10 pts) |
| **Links/Uploads** | *SLF 125\_Unit Three Instructions.doc* |
| **Unit 3 Activities** | |
| **Reading One** | **“Establishing Forages”** |
| **Image/Image Attribution** | http://farm8.staticflickr.com/7236/7304720350_20bc346877_t.jpg “Grass” by Andy Rogers CC BY-SA 2.0<http://www.flickr.com/photos/cobaltfish/7304720350/> Grassgrain.jpeg |
| **Content** | Read the article “Hay and Pasture” (pages 10 -17) (start at the end of page 10 “Selecting Hay and Pasture Species”) by Jim Morrison from the Rockford Illinois Extension Center <http://extension.cropsci.illinois.edu/handbook/pdfs/chapter06.pdf>  This reading gives a detailed look at selecting and establishing pasture grasses and legumes.   * Identify forage strengths and weaknesses * As you choose your forage species how can you evaluate them for strengths and weaknesses? * When selecting forage what are some factors you want to consider? * What are some common legume species? |
| **Content Attribution** | Jim Morrison from the Rockford Illinois Extension Center  James Donaldson, course developer |
| **Power Point** | **“Weed Identification Guide”** |
| **Content** | View the Power Point content “Weed Identification Guide” |
| **Links and Uploads** | *Weed Identification Guide.pptx* |
| **Content Attribution** | James Donaldson, course developer |
| **Images/Image Attributions** | 9725428827_de86467df0_t  “CAB020827a” by Jerry Oldenettel CC BY-NC-SA 2.0  <http://www.flickr.com/photos/jroldenettel/9725428827/>  Nutsedge.jpeg  White Clover  “White Clover” Image Courtesy of Kristin Bradley  White Clover.jpeg  5853812324_3a9b5a4e21_t  “Untitled” by stephen jones CC BY 2.0  <http://www.flickr.com/photos/stevepj2009/5853812324/>  Bind Weed.jpeg  59003389_7612c4e00b_t  “Dandelion” by lobo235 CC BY 2.0  <http://www.flickr.com/photos/lobo235/59003389/>  Dandelion.jpeg  3755827278_1985be874d_t  “Oxalis pes-caprae 0016” by Zachi Evenor CC BY 2.0  <http://www.flickr.com/photos/zachievenor/3755827278/>  Oxalis.jpeg  8736387982_26c31f4726_t “Oxalis pes-caprae (for Wikipedia)” by Zachi Evenor <http://www.flickr.com/photos/zachievenor/8736387982/>  Oxalis 2.jpeg  3874836566_2d5e11ab63_t  “Digitaria sanguinalis” by Matt Lavin CC BY-SA 2.0  <http://www.flickr.com/photos/plant_diversity/3874836566/>  Crab Grass.jpeg  http://farm8.staticflickr.com/7391/9051444567_083a1fb386_t.jpg  “lamb’s quarters” by Wendell Smith CC BY 2.0  <http://www.flickr.com/photos/95661536@N05/9051444567/>  Lambs Quarter.jpeg  http://farm4.staticflickr.com/3652/3328581521_6d6700a3c5_t.jpg  “Glechoma hederacea CREEPING CHARLIE” by Frank Mayfield CC BY-SA 2.0  <http://www.flickr.com/photos/gmayfield10/3328581521/>  Creeping Charlie.jpeg  7617659462_00447be9e4_t  “Thistles” by oatsy40 CC BY 2.0  <http://www.flickr.com/photos/oatsy40/7617659462/>  Thistle.jpeg  7593676822_be1369913a_t  “Common Pigweed” by F.D. Richards CC BY-SA 2.0  <http://www.flickr.com/photos/50697352@N00/7593676822/>  Pigweed.jpeg  2042935915_d0b3af114c_t  “Smartweed” by Jason Hollinger CC BY 2.0  <http://www.flickr.com/photos/7147684@N03/2042935915/>  Smart Weed.jpeg  8671445031_ce1350c863_t  “Polygonum (or Persicaria) hydropiperoides” by Dick Culbert CC By 2.0  <http://www.flickr.com/photos/92252798@N07/8671445031/>  Smart Weed 2.jpeg  8740146047_97657221f8_t  “My Back Yard – Spring Flowers –Wild Violet” by Jack Pearce CC BY-SA 2.0  <http://www.flickr.com/photos/jwpearce/8740146047/>  Wild Violet.jpeg  6019541884_424eb10ebd_t  “Velvetleaf (Abutilon theophrasti)” by anneheathen CC BY 2.0  <http://www.flickr.com/photos/annethelibrarian/6019541884/>  Velvetleaf.jpeg  5188424996_14e2b77652_t  “Portulaca lutea” by David Eickoff CC BY 2.0  <http://www.flickr.com/photos/dweickhoff/5188424996/>  Purslane.jpeg  5040973256_1a946be3b6_t  “Commelina communis” by Nacho 13 CC BY 2.0  <http://www.flickr.com/photos/7858710@N02/5040973256/>  Dayflower.jpeg  7557421042_e43793832a_t  “Broadleaf Plantain” by F.D. Richards CC BY-SA 2.0  <http://www.flickr.com/photos/50697352@N00/7557421042/>  Plantain.jpeg  2620415235_e83cf540d6_t  “Poison Ivy 034” by John CC BY 2.0  <http://www.flickr.com/photos/cygnus921/2620415235/>  Poison Ivy.jpeg  5860678394_63aff00105_t  “Kat beats Poison Ivy” by KAZ Vorpal CC BY 2.0  <http://www.flickr.com/photos/kazvorpal/5860678394/>  Poison Ivy 2.jpeg  5039218643_d202932bc7_t  “American pokeweed, Phytolacca americana” by Tim Gibson CC BY 2.0  <http://www.flickr.com/photos/53933665@N06/5039218643/>  Pokeweed.jpeg  http://farm2.staticflickr.com/1409/1420660621_2994e3b3a6_t.jpg  “Black Nightshade (Solanum nigrum) by Jerry Kirkhart CC BY 2.0  <http://www.flickr.com/photos/jkirkhart35/1420660621/>  Black Nightshade.jpeg  5076081562_9c0f31244a_t  “QUICKWEED” by shastared CC BY 2.0  <http://www.flickr.com/photos/shastared/5076081562/>  Quickweed.jpeg  2872172758_dfe63a7025_t  “Black Nightshade (Solanum douglasii) by Jerry Kirkhart CC BY 2.0  <http://www.flickr.com/photos/jkirkhart35/2872172758/>  Black Nightshade 2.jpeg  9188115909_b4958b2e19_t “starr-080602-5397-plant-Anagallis\_arvens is-habit\_with\_black\_medic-Along\_coast\_ea st\_of\_Bulky\_Dump\_Sand\_Island\_\_Midway\_Ato ll”by Forest and Kim Starr CC BY 2.0 <http://www.flickr.com/photos/starr-environmental/9188115909/>  Black Medic.jpeg  3849552390_d7a723d922_t  “Agropyron repens” by Matt Lavin CC BY-SA 2.0  <http://www.flickr.com/photos/plant_diversity/3849552390/>  Quack Grass.jpeg  7568357808_129ac4aeb9_t  “Curly Dock” by F.D. Richards CC BY-SA 2.0  <http://www.flickr.com/photos/50697352@N00/7568357808/>  Curly Dock.jpeg  4516264517_ddc67e15da_t  “Henbit” by klm185 CC BY 2.0  <http://www.flickr.com/photos/klm185/4516264517/>  Henbit.jpeg  4374222229_93b88208ab_t  “Henbit (Lamium Amplexicaule)” by abbamouse CC BY-SA 2.0  <http://www.flickr.com/photos/abbamouse/4374222229/>  Henbit 2.jpeg  5286477498_5306abc865_t  “Fleabane” by Jessica Crabtree CC BY 2.0  <http://www.flickr.com/photos/jessicacrabtree/5286477498/>  Fleabane.jpeg  7320455280_44c1837c1e_t  “barba di becco” by nociveglia CC BY 2.0  <http://www.flickr.com/photos/40385177@N07/7320455280/>  Yellow Salsify.jpeg  4778484355_e21c6a6fe3_t  “Yellow Sweet-Clover (Melilotus officinalis)” by Joshua Mayer CC BY-SA 2.0  <http://www.flickr.com/photos/wackybadger/4778484355/>  Yellow Clover.jpeg  7556436554_f871c23de7_t  “Ambrosia artemisiifolia (Ragweed)” by F.D. Richards CC BY-SA 2.0  <http://www.flickr.com/photos/50697352@N00/7556436554/>  Ragweed.jpeg  5841906493_955b33c873_t  “Carduss nutans” by Matt Levin CC BY-SA 2.0  <http://www.flickr.com/photos/plant_diversity/5841906493/>  Musk Thistle.jpeg  9642726485_664982e59b_t  “Chickweed-Stellaria media” by John Tan CC BY 2.0  <http://www.flickr.com/photos/31031835@N08/9642726485/>  Chickweed.jpeg  7605987250_933cdb2217_t  “Prostrate Spurge” by F.D. Richards CC BY-SA 2.0  <http://www.flickr.com/photos/50697352@N00/7605987250/>  Prostrate Spurge.jpeg  7264042430_ec698ef7e9_t  “Stinging Nettles (Urtica dioica)” by Leonora Enking CC BY-SA 2.0  <http://www.flickr.com/photos/33037982@N04/7264042430/>  Stinging Nettles.jpeg |
| **Quiz** | **Unit Three Quiz** |
| **Content** | 1. Kentucky bluegrass is a winter hardy perennial grass that tolerates close grazing.  a. True (correct 2 pts)  b. False  2. Tall fescue is a high yielding grass for hay and pasture.  a. True (correct 2 pts)  b. False  3. A major strength of red clover is which of the following?  a. b. Drought tolerant  b. Easy to establish (correct 2 pts)  c. Grows well in all soil  d. Not susceptible to root disease  4. A major strength of alfalfa is which of the following?  a. Tolerant to wet and poorly drained soil  b. Suited for frost seeding  c. Drought tolerant (correct 2 pts)  d. Resistant to the potato leaf hopper insect  5. When choosing forages it is important to consider which of the following?  a. Yield potential  b. Forage quality  c. Winter-hardiness  d. All of the above (correct 2pts) |
| **Content**  **Attributions** | James Donaldson, course developer |
| **Discussion Board** | **“Crabgrass Anyone?”** |
| **Content** | Read the article “Crabgrass Friend or Foe?” located at  <http://www.caes.uga.edu/commodities/fieldcrops/forages/Ga_Cat_Arc/2002/Aug02.pdf> .  Usually crabgrass is not a commonly used forage grass but rather thought of as a pest grass. After reading the articles what do you think about Dr. Andrae’s assessment of crabgrass? Post your response (at least one paragraph) to the discussion board and respond to at least one other classmates post. Many of you might have different opinions (which are good!) so remember to keep the discussion respectful. |
| **Content Attribution** | Dr. John Andrae, Extension Forage Specialist Department of Crop and Soil Science the University of Georgia.  James Donaldson, content developer |
| **Links/Uploads** | “Crabgrass Friend or Foe?”  <http://www.caes.uga.edu/commodities/fieldcrops/forages/Ga_Cat_Arc/2002/Aug02.pdf> . |
| **Dropbox Assignment** | **“Identify Your Weeds”** |
| **Image** | 2658264515_d2165e3ea9_t |
| **Image Attribution** | Replaced  http://www.flickr.com/photos/21561428@N03/5780321783  by las – initially, CC BY-NC-ND 2.0 |
| **Content** | In this assignment you will do a hands-on activity to help identify weeds in your area.  Complete the following steps to Identify Your Weed:   1. View the Weed Identification Power Point 2. Find two examples of weeds in your area that are also depicted in the guide. 3. Photograph your weeds with a digital camera. 4. Compile a short report using Microsoft Word and insert your photos in the document. 5. In your report include the following information: name of weed, description of weed, where it was growing when you found it and how to prevent it from growing where you don’t want it to grow. 6. Turn the document into the Dropbox. |
| **Content**  **Attribution** | James Donaldson, course developer |
| **Links/Uploads** | *Unit Three Assignment.pdf* |
| **Announcements** |  |

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| --- | --- |
| **Unit 4** | |
| **Title** | **Formulating Seed Mixes for Yield and Nutrition** |
| **Landing Page**  **Image** | C:\Users\Kristin\Dropbox\SLF_150_Pasture Management\SLF 150_Pasture Management\Images\Course Home and Landing Page Images\Unit Four Landing.png  Unit Four Landing .png |
| **Image/Image**  **Attribution** | 6919845199_34fcbd2968_t  “Lolium perenne habit” by Harry Rose CC BY 2.0  <http://www.flickr.com/photos/macleaygrassman/6919845199/>  Perennial Rye Grass.jpeg  http://farm8.staticflickr.com/7173/6812484625_32b8378cd9_s.jpg  “Calculator, Pen and Calendar” by photosteve101 CC BY 2.0  <http://www.flickr.com/photos/42931449@N07/6812484625/>  Calculator Pen and Calendar.jpeg  10086950306_3e29a18e34_t  “bag of grass seed” by <http://www.homespothq.com> CC BY 2.0  <http://www.flickr.com/photos/86639298@N02/10086950306/>  Grass Seeds.jpeg  108252720_bbf82778eb_t  “Grazing” by Kieran Lamb CC BY-SA 2.0  <http://www.flickr.com/photos/western4uk/108252720/>  TwoSheep.jpeg |
| **Content**  **Overview** | In this unit you will learn how to formulate seed mixes for good pasture management. |
| **Objectives** | In this unit you should:   * Formulate seed mixes for pasture. |
| **Outcomes** | Understand the formulas and strategies for establishing proper seed mixes for pastures. |
| **To-Do-List** | 1. Read the two readings for this week “Forage Crop Seed Mixture Formulation” and “Steps to Establish and Maintain Legume - Grass Pastures” 2. Attend Live Seminar 3. Complete the Discussion Board “Forages Strengths and Weaknesses” (15pts) 4. Complete Dropbox Assignment One: “Calculate Your Forage Mixture” (25 pts) 5. Complete the Dropbox Assignment Two: “SANET Listserv”   (25 pts)   1. Take the Quiz over the readings (10 pts) |
| **Links/Uploads** | *SLF 125\_Unit Four Instructions.doc* |
| **Unit 4 Activities** | |
| **Reading One** | **“Forage Crop Seed Mixture Formulation”** |
| **Image/Image Attribution** | http://farm4.staticflickr.com/3830/9629680277_5a8a34d5fe_t.jpg “Emptying a Seed Bag” by United Soybean Board CC BY 2.0<http://www.flickr.com/photos/unitedsoybean/9629680277/> Pouring Seed.jpeg |
| **Content** | Navigate to the “Forage Crop Seed Mixture Formulation” article located at <http://library.ndsu.edu/repository/handle/10365/17300> (Click on PDF to view article) This article discusses selecting seed mixtures and characteristics as well as gives a worksheet for figuring your seed mix.   * How complex should your seed mixtures be? * What factors should be considered when selecting a forage crop? * What data do you need to figure the number of pure live seeds required per square foot of pasture? |
| **Content Attribution** | North Dakota State University Depository. Cooperative Extension Service. Author: Duaine Dodds, Grassland Management Specialist  James Donaldson, course developer |
| **Links/Uploads** | “Forage Crop Seed Mixture Formulation” <http://library.ndsu.edu/repository/handle/10365/17300> (Click on PDF to view article) |
| **Reading Two** | **“Steps to Establish and Maintain Legume-Grass Pastures”** |
| **Image/Image Attribution** | http://farm6.staticflickr.com/5536/10733500486_7a11629fb9_t.jpg “Trifolium pratense habit3” by Harry Rose CC BY 2.0<http://www.flickr.com/photos/macleaygrassman/10733500486/> CloverLegume.jpeg |
| **Content** | Navigate to the article “Steps to Establish and Maintain Legume-Grass Pastures” located at <http://www.extension.iastate.edu/publications/pm1008.pdf> This article gives forage seed mix recommendations, seeding steps and advice for future management.   * What are some forage seed mixture recommendations for common Midwest pasture forages? * What are some types of seeding recommendations? * What are some ways to manage your forages after establishment? |
| **Content Attribution** | Author: Stephen K. Barnhart, Iowa State University Extension and Outreach agronomist.  James Donaldson, course developer |
| **Links/Uploads** | “Steps to Establish and Maintain Legume-Grass Pastures” <http://www.extension.iastate.edu/publications/pm1008.pdf> |
| **Live Seminar (Big Blue Button)** | **“Final Project Continued”** |
| **Content** | Purpose: Discuss final aspects of project reviewing components from Units 1-4 that they will need to be prepared to include. Also to review the final assignment sheet. (attached as a Word doc) |
| **Links/Uploads** | *Final Project Assignment Sheet.doc* |
| **Content Attribution** | James Donaldson, course developer |
| **Quiz** | **Unit Four Quiz** |
| **Content** | 1. Seed mixtures should be: 2. Complex 3. Simple (correct 2 pts) 4. Compound 5. None of the above 6. Usually seed mixtures should contain: 7. As many varieties of grasses and legumes that can be purchased 8. At least one grass and one legume (correct 2 pts) 9. No legumes 10. Only seed on sale 11. Factors that should be considered when selecting forage varieties for seed mixes are growth season, potential yield, compatibility and soil adaptation. (True/False)   a. True (correct, 2pts)  b. False   1. To prepare your pasture for seeding when a seed bed will follow a row crop which of the following can be used? 2. Disc 3. Harrow 4. Secondary Tillage 5. All of the above (correct, 2pts) 6. To prepare your pasture for seeding when renovating a pasture which of the following might you use? 7. Labeled herbicides 8. Shallow plowing 9. Disking with a brush disc 10. All of the above (correct 2 pts) |
| **Content**  **Attributions** | James Donaldson, course developer |
| **Discussion Board** | **“Forages Strengths and Weaknesses”** |
| **Content** | When you are choosing forage species there is no magic combination. All, legumes and grasses, and forage species have strengths and weaknesses.  In this discussion post choose a specific livestock that matches one of the forage seed mixture from the recommendations provided in the reading “Steps to Establish and Maintain Legume-Grass Pastures”. Please explain your reasoning for your choice including the strengths and weaknesses associated with it. You may have to do some additional research by talking to farmers or people you know who have chosen forage mixes or conduct an internet search on the topic.  Include at least one paragraph including a strength and a weakness of the forage you chose to the discussion board. |
| **Content Attributions** | James Donaldson, course developer |
| **Dropbox Assignment One** | **“Calculate Your Forage Mixture”** |
| **Images/Image Attributions** | 10086950306_3e29a18e34_t  “bag of grass seed” by <http://www.homespothq.com> CC BY 2.0  <http://www.flickr.com/photos/86639298@N02/10086950306/>  Grass Seeds.jpeg  http://farm8.staticflickr.com/7173/6812484625_32b8378cd9_s.jpg  “Calculator, Pen and Calendar” by photosteve101 CC BY 2.0  <http://www.flickr.com/photos/42931449@N07/6812484625/>  Calculator Pen and Calendar.jpeg  108252720_bbf82778eb_t  “Grazing” by Kieran Lamb CC BY-SA 2.0  <http://www.flickr.com/photos/western4uk/108252720/>  TwoSheep.jpeg |
| **Content** | Using the “Forage Crop Seed Mixture Formulation” reading choose your own grazing mixture from the pasture forage species studied thus far and calculate your forage crop seed mixture. (For reference study the example calculations from the reading to help you) Show your work in a Microsoft Word document and upload to the Dropbox. View the example below: (This table/calculation is what you need to turn in) To make a table in Microsoft Word choose the “Insert” tab and then choose “Table.” Insert 6 columns and 7 rows like the example.  **Steps:**   1. List species to be planted in column 1 2. List percent of composition that is desired in column 2 3. Get column 3 data from table 4 in the reading 4. Complete column 4 by multiplying column 2 and 3 for each species you chose 5. For column 5 list # of seeds/square foot/pound of seed planted for each species. Get data from table 3 in the reading. 6. Complete column 6 by dividing column 4 by 5. This will equal you PLS seeding rate/acre for each species you listed. 7. Total column 6. This is your total PLS seeding rate/acre.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Species**  **(1)** | **% Composition Desired**  **(2)** | **Total Seeds**  **(3)** | **Number of Seeds per Sq Ft. TOTAL**  **(4)** | **Number of Seeds per Sq Ft**  **PER POUND**  **(5)** | **Pounds PLS per Acre**  **(6)** | |  |  | TABLE 4  (data in reading) | Column 2 X 3 | TABLE 3  (data in reading) | Columns 4 + 5 | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | | **TOTALS** | 100 |  |  |  |  | |
| **Links/Uploads** | *Unit Four Assignment One.pdf* |
| **Content**  **Attribution** | Formula from “Forage Crop Seed Mixture Formulation” reading. North Dakota State University Depository. Cooperative Extension Service. Author: Duaine Dodds, Grassland Management Specialist  James Donaldson, course developer |
| **Dropbox Assignment Two** | **“SANET listserv”** |
| **Images/Image Attributions** | 8963185913_f2ec7dcf34_t  “Orchard Grass” by John B. CC BY 2.0  <http://www.flickr.com/photos/dendroica/8963185913/>  Orchard Grass.jpeg  9624051488_7dfe91f64b_t  “Soybean Field” by United Soybean Board CC BY 2.0  <http://www.flickr.com/photos/unitedsoybean/9624051488/>  Soybean Field.jpeg  4648993440_8749798bc3_t  “Dandelions” by Katie Brady CC BY 2.0  <http://www.flickr.com/photos/cliche/4648993440/>  SunDandelions.jpeg |
| **Content** | This assignment has two parts. For part one you need to join the SANET listserv. This listserv is sponsored by Sustainable Agriculture Research and Education (SARE) under the USDA. This online listserv is a valuable resource and discussion forum where you can receive information about sustainable agriculture, post questions you might have to the forum groups and also receive answers. This type of forum operates through your email address. To sign up follow the link: <http://www.sare.org/Learning-Center/SANET-Listserv> and click on the “Join or Leave” option. Follow the prompts to join the listerv. First enter the email address in which you would like to use, then fill in your name and keep everything else listed as it already selected.  If you wish to leave the listserv after this class you would follow the same steps, but choose the “leave” option. I highly recommend keeping your subscription to help you keep up-to-date on the current and future issues following sustainable agriculture.  For part two of this assignment research the SANET listerv’s archives located at the link: <http://sanet.sare.org/archives/sanet-mg.html> . Click on a month to investigate and choose one of the topics that interest you. In a Microsoft Word document include the link or URL to the post you chose, a short summary of the post and what you learned by reading the post. You can also discuss any questions you have after reading the information or general insights or opinions you have about the topics. This assignment should be two paragraphs in length. |
| **Content**  **Attribution** | James Donaldson, course developer |
| **Links/Uploads** | *Unit Four Assignment Two.pdf* |

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| **Unit 5** | |
| **Title** | **“Carrying Capacity and Stocking Rate”** |
| **Landing Page**  **Image** | C:\Users\Kristin\Dropbox\SLF_150_Pasture Management\SLF 150_Pasture Management\Images\Course Home and Landing Page Images\Unit Five Landing.png  Unit Five Landing .png |
| **Image/Image**  **Attribution** | 9303118533_72267acfc6_t “20130712-AMS-LSC-0361.jpg” by U.S. Department of Agriculture CC BY 2.0 <http://www.flickr.com/photos/usdagov/9303118533/>  ClosingGate.jpeg  3673596280_1326366204_t  “Horse walking over to see what I wanted” by Todd Ryburn CC BY 2.0  <http://www.flickr.com/photos/tryburn/3673596280/>  HorseFence.jpeg  8227828089_77293a4ba2_t  Cows in the Pasture” by Tim Sackton CC BY-SA 2.0  <http://www.flickr.com/photos/sackton/8227828089/>  ThreeCows.jpeg  2249220340_901fce4366_t  “cows in pasture (also a jigsaw puzzle) by uhuru1701 CC BY-SA 2.0  <http://www.flickr.com/photos/uhuru1701/2249220340/>  FenceCows.jpeg |
| **Content**  **Overview** | In this unit you will learn about rotational grazing and understand how to establish a correct stocking rate formula for your pasture management plan. |
| **Objectives** | In this unit you should:   * Determine the appropriate stocking rate, given the size of the pasture and type of livestock. * Evaluate the duration that a given pasture should be grazed based on environmental conditions and stocking rate. |
| **Outcomes** | * Understand how to access size of pasture and amount of livestock for correct stocking rate. * Know the duration that a pasture can be grazed based on various environmental conditions. * Understand grazing rotation practice and methods. |
| **To-Do-List** | 1. Read the three readings for this week “Determining You’re Stocking Rate”, “Determining Forage Production and Stocking Rates: A Clipping Procedure for Range Lands”and “Pastures Grazing Management” 2. Watch videos over Managed Grazing 3. Complete the Discussion Board “Video Discussion” (15 pts) 4. Complete the Dropbox Assignment “Determining Your Stocking Rate”(25 pts) 5. Take the Quiz over the readings (10 pts) |
| **Links/Uploads** | *SLF 125\_Unit Five Instructions.doc* |
| **Unit 5 Activities** | |
| **Reading One** | **“Determining Your Stocking Rate”** |
| **Image/Image Attribution** | http://farm4.staticflickr.com/3373/3204993444_a74822bde1_t.jpg “Renegade Grass” by ..stiina..” CC BY 2.0<http://www.flickr.com/photos/34419934@N03/3204993444/> GrassWood Fence.jpeg |
| **Content** | To read the article navigate to the Utah State University Extension site located at <https://extension.usu.edu/htm/publications/publication=6247> . Then click on the “Determining Your Stocking Rate” pdf. This article gives you a detailed explanation and examples of how to calculate your own stocking rate.   * Why is knowing forage yield important for calculating stocking rate? * What is an Animal Unit Month (AUM)? * What is an Animal Unit Equivalent (AUE)? * What are the differences between average animal weight method stocking rate problem and the classic stocking rate problem? |
| **Content Attribution** | Utah State University Cooperative Extension  Mindy Pratt and G. Allen Rasmussen, May 2001  James Donaldson, course developer |
| **Links/Uploads** | “Determining Your Stocking Rate” <https://extension.usu.edu/htm/publications/publication=6247> |
| **Reading Two** | **“Determining Forage Production and Stocking Rates: A Clipping Procedure for Range Lands”** |
| **Image/Image Attribution** | http://farm4.staticflickr.com/3119/2699141206_41f457396e_t.jpg “Cassie and Mercedes” by floodllama CC BY 2.0<http://www.flickr.com/photos/38446022@N00/2699141206/> Goatsinpasture.jpeg |
| **Content** | To read “Determining Forage Production and Stocking Rates: A Clipping Procedure for Range Lands” navigate to the following linked PDF: <http://extension.usu.edu/BEHAVE/files/uploads/Low-Moisture%20Block/Estimating%20Range%20Production.pdf> .  This article gives you step by step directions to measure forage production in order to better determine your stocking rate.   * What methods need to be used to determine stocking rate? * When should pasture forages be clipped? * What materials are needed to calculate forage yield? * What are the steps for measuring forage production? |
| **Links/Uploads** | <http://extension.usu.edu/BEHAVE/files/uploads/Low-Moisture%20Block/Estimating%20Range%20Production.pdf> . |
| **Content Attribution** | Larry Brence, Fallon-Carter County Extension Agent, and Roger Sheley,  Extension noxious weeds specialist, MSU-Bozeman.  Copyright © 2003 MSU Extension Service  James Donaldson, course developer |
| **Reading Three** | **“Pastures Grazing Management”** |
| **Image/Image Attribution** | http://farm1.staticflickr.com/110/306749214_5df2b68b36_t.jpg “RGB” by jeff\_w\_brooktree CC BY-SA 2.0<http://www.flickr.com/photos/trj/306749214/> PastureFall.jpeg |
| **Content** | To read “Pastures: Grazing Management” navigate to the Penn State Extension located at <http://extension.psu.edu/> . Scroll down to the “Plants and Pests” heading and click on “Crops and Soils.” Then choose the blue “Agronomy Guide” button from the bar on the left hand side. Again go to the left hand side of the page and click on “Crop and Soil Management.” From the “Crop and Soil Management table of contents choose “Section 8 Forages” and then scroll down to the “Pastures” heading (close to the bottom of the page) and choose “Grazing Management.” Read the “Pastures: Grazing Management” article.   * What is the importance of grazing pressure and stocking rate? * What is continuous grazing? * What is rotational grazing * What is creep grazing? * What is mixed grazing? |
| **Content Attribution** | © 2013 College of Agricultural Sciences Penn State Extension  James Donaldson, course developer |
| **Links/Uploads** | LINK to website: <http://extension.psu.edu/>  LINK to ARTICLE : <http://extension.psu.edu/agronomy-guide/cm/sec8/sec810l> |
| **Video Assignment** | **“Managed Grazing”** |
| **Content** | View the following videos on managing grazing. These videos introduce managed grazing and discuss managing livestock, forage plants and resources in managed grazing plans.   1. “Managed Grazing- Part 1-Introduction to Managed Grazing” <http://www.youtube.com/watch?v=slaWPxCKB9Y> 2. “Managed Grazing – Part 2- Animal Management” <http://www.youtube.com/watch?v=dqOiSxviD0Y> 3. “Managed Grazing –Part 4-Managing Pasture Plants” <http://www.youtube.com/watch?v=VUHIEecpkBk> 4. “Managed Grazing-Part5-Year Around Resource Management” <http://www.youtube.com/watch?v=jrqvOGXHzeQ> |
| **Content Attributions** | “Managed Grazing- Part 1-Introduction to Managed Grazing” - Iowa State University Extension 1995 - VID 0018. Standard YouTube License  “Managed Grazing – Part 2- Animal Management” Iowa State University Extension 1995 - VID 0018. Standard YouTube License.  “Managed Grazing –Part 4-Managing Pasture Plants” Iowa State University Extension 1995 - VID 0018. Standard YouTube License.  “Managed Grazing-Part5-Year Around Resource Management” Iowa State University Extension 1995 - VID 0018. Standard YouTube License. |
| **Links/Uploads** | 1. “Managed Grazing- Part 1-Introduction to Managed Grazing” <http://www.youtube.com/watch?v=slaWPxCKB9Y> 2. “Managed Grazing – Part 2- Animal Management” <http://www.youtube.com/watch?v=dqOiSxviD0Y> 3. “Managed Grazing –Part 4-Managing Pasture Plants” <http://www.youtube.com/watch?v=VUHIEecpkBk> 4. “Managed Grazing-Part5-Year Around Resource Management” <http://www.youtube.com/watch?v=jrqvOGXHzeQ> |
| **Quiz** | **Unit Five Quiz** |
| **Content** | 1. When designing a pasture management plan selection of a grazing management practice is 2. Not very important 3. Very important (correct 2pts) 4. Unknown 5. Not an accepted practice 6. Common grazing management practices are: 7. Continuous grazing 8. Mixed grazing 9. Creep grazing 10. Rotational grazing 11. All of the above (correct 2 pts) 12. To maintain a productive pasture in a continuous grazed system it is important to avoid: 13. Fertilizing 14. Resting 15. Over grazing (correct 2 pts) 16. None of the above 17. Mixed grazing is explained as: 18. Grazing livestock on mixed grasses 19. Grazing mixed colored livestock 20. Grazing pastures with just cattle 21. Grazing of pastures by two or more species of animals (correct 2 pts) 22. More intensive rotational grazing systems have seven or more paddocks in which are grazed. (True/False) (True 2 pts) |
| **Content**  **Attributions** | James Donaldson, course developer |
| **Discussion Board** | **“Video Discussion”** |
| **Content** | After viewing the assigned videos, choose an aspect of pasture management that was discussed.  For example:  What did you find most interesting?  Were there any new concepts to you?  What would you like to learn more about?,  What did you disagree with?  Did anything surprise you?  Write a one to two paragraph statement about that topic. Respond to at least one other classmate’s post. Remember to provide a more detailed response than just a simple “I like your post” or “I agree with you.” Discuss what you learned in the videos. |
| **Content Attributions** | James Donaldson, course developer |
| **Dropbox Assignment** | **“Determining You’re Stocking Rate”** |
| **Images/Image Attributions** | 8227828089_77293a4ba2_t  “Cows in the Pasture” by Tim Sackton CC BY-SA 2.0  <http://www.flickr.com/photos/sackton/8227828089/>  ThreeCows.jpeg  2249220340_901fce4366_t  “cows in pasture (also a jigsaw puzzle) by uhuru1701 CC BY-SA 2.0  <http://www.flickr.com/photos/uhuru1701/2249220340/>  FenceCows.jpeg  2554950207_135c77256e_t  “Bolton Abbey Sheep Pasture Path to Wharfe River Bridge” by Pamela J. Eisenberg CC BY-SA 2.0  <http://www.flickr.com/photos/27398485@N08/2554950207/>  SheepPasture.jpeg |
| **Content** | For this assignment interview a livestock owner asking them the following questions:  1. How do they determine their stocking rate? (Remember to ask for exact numbers or resources).  2. What are their grazing rotation practices and methods?  Compile a report of your interview in a Microsoft Word document and upload to the Course Dropbox. This assignment should be 2 paragraphs in length. |
| **Links/Uploads** | *Unit Five Assignment .pdf* |
| **Content**  **Attribution** | James Donaldson, course developer |

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| **Unit 6** | |
| **Title** | **“Calculating Yield”** |
| **Landing Page**  **Image** | C:\Users\Kristin\Dropbox\SLF_150_Pasture Management\SLF 150_Pasture Management\Images\Course Home and Landing Page Images\Unit Six Landing.png  *Unit Six Landing .png* |
| **Image/Image**  **Attribution** | 9303122151_88fa45d158_t “20130712-AMS-LSC-0375.jpg” by U.S. Department of Agriculture CC BY 2.0 <http://www.flickr.com/photos/usdagov/9303122151/>  HayTractor.jpeg  7370360116_016951d636_t  “Lolium perenne auricles3” by Harry Rose CC BY 2.0  <http://www.flickr.com/photos/macleaygrassman/7370360116/>  Rye Grass Stem.jpeg  http://farm3.staticflickr.com/2516/3782535152_19ca13ff70_t.jpg “Hay Bales” by Robert Taylor CC BY 2.0<http://www.flickr.com/photos/bobolink/3782535152/> Haybales.jpeg  http://farm5.staticflickr.com/4072/4273218381_a3316d3330_t.jpg “Calculator, pen and agenda in black organizer case” by Horia Varlan CC BY 2.0<http://www.flickr.com/photos/horiavarlan/4273218381/> Calculatororganizer.jpeg |
| **Content**  **Overview** | In this unit you will learn the steps and processes to follow to determine dry matter yield. You will also investigate how farmers in your area calculate their yields. |
| **Objectives** | In this unit you should:   * Estimate dry matter yield of the forage species and mixed pasture types studied. |
| **Outcomes** | * Be able to understand the dry matter yield for different forage species. |
| **To-Do-List** | 1. Read the two readings for this week “Calculating Hay Yields” and “Lesson 1 Determining Forage Yield Activity Sheet” 2. Complete the Discussion Board “Share Your Thoughts” (15pts) 3. Complete the Dropbox Assignment “Information Hunt”( (25 pts) 4. Take the Quiz over the readings (10 pts) |
| **Links/Uploads** | *SLF 125\_Unit Six Instructions.doc* |
| **Unit 6 Activities** | |
| **Reading One** | **“Calculating Hay Yields”** |
| **Image/Image Attribution** | http://farm7.staticflickr.com/6103/6366229763_a8cf0e8946_t.jpg “Hay Bales, Cherhill” by Nick CC BY 2.0<http://www.flickr.com/photos/34517490@N00/6366229763/> Stacked Hay.jpeg |
| **Content** | Read the “Calculating Hay Yields” reading located at the Purdue Extension <http://www.agry.purdue.edu/ext/forages/rotational/articles/PDFs-articles/calculating-hay-yields.pdf> .  This reading explains why you want to calculate hay yield and gives you an example and formula to use.   * Why would you want to calculate hay yield? * What numbers/data do you need to know before you can calculate hay yield? * What values do you need to calculate hay yield? * How do you properly calculate hay yield? |
| **Content Attribution** | Danny Greene, Stephen Hawkins, and Keith Johnson Department of Agronomy, David Petritz Department of Agricultural Economics, David Trotter Clark County Agricultural Agent Purdue University  James Donaldson, course developer |
| **Links/Uploads** | <http://www.agry.purdue.edu/ext/forages/rotational/articles/PDFs-articles/calculating-hay-yields.pdf> . |
| **Reading Two** | **“Lesson 1 Determining Forage Yield and Activity Sheet”** |
| **Image/Image Attribution** | http://farm9.staticflickr.com/8001/7302778178_ee4f88fc47_t.jpg “More of Those Hay Bales” by Linda Tanner CC BY 2.0<http://www.flickr.com/photos/goingslo/7302778178/> LostofHay.jpeg |
| **Content** | Read the “Lesson 1 Determining Forage Yield Activity Sheet” located at the University of Montana Extension  <http://www.animalrangeextension.montana.edu/lol/module-4a/4-yield.htm>.  This reading gives you a detailed look at the process/steps you need to follow when determining forage yield.   * What is forage yield? * What type of equipment do you need to calculate forage yield? * What steps do you need to follow to properly calculate forage yield? |
| **Links/Uploads** | <http://www.animalrangeextension.montana.edu/lol/module-4a/4-yield.htm>. |
| **Content Attribution** | University of Montana Animal Range Extension  *(Acknowledgement: Taken from "Living on the Land 2001")*  James Donaldson, course developer |
| **Quiz** | **Unit Six Quiz** |
| **Content** | 1. By determining hay yield you can make changes that will help increase potential profits. (true/false)  a. True (correct, 2 pts)  b. False  2. To calculate hay yields in dry tons per acre you need to know:  a. Acreage of the field  b. Number of bales per harvest  c. Average weight of bales in each harvest  d. All of the above (correct 2 pts)  3. Forage yield is the amount of forage dry matter available in a pasture on a per acre basis. (true/false)  a. True (correct, 2 pts)  b. False  4. Equipment needed to determine forage yield include:  a. Tractor  b. Hoop (correct, 2 pts)  c. Combine  d. Coffee cans  5. An easy way to construct a hoop is to:  a. Bolt together the ends of two 8 feet long ¼ inch cables (correct 2 pts)  b. Glue together the ends of two pieces of wire  c. Buy a children’s Hula Hoop  d. Hoops aren’t needed in the process |
| **Content**  **Attributions** | James Donaldson, course developer |
| **Discussion Board** | **“Share Your Thoughts”** |
| **Content** | For this discussion board you will share your thoughts on what you have learned in this unit. You may pose a question you have about calculating yield, share an insight you have about the process, tell a story about your experience (or farmer you know) with calculating yield and/or thoughts or questions you have about the formulas and materials used. Please respond to at least one other classmates post. Be sure to go beyond just stating “I agree” or “good post.” |
| **Content Attributions** | James Donaldson, course developer |
| **Dropbox Assignment** | **“Information Hunt”** |
| **Images/Image Attributions** | 9303122151_88fa45d158_t “20130712-AMS-LSC-0375.jpg” by U.S. Department of Agriculture CC BY 2.0 <http://www.flickr.com/photos/usdagov/9303122151/>  HayTractor.jpeg |
| **Content** | For this assignment you will gather more information on calculating dry matter yield of your local forage species (remember we identified these in Unit 3). To further investigate how farmers in your area estimate/calculate their forage species dry matter yield you may call local extension center, interview a farmer you know or search the web. Post your findings to the discussion board. Your report should be at least 1-2 paragraphs and contain the following information:  1. Type of forage species you investigated  2. Method you used to find information (interview, phone call, internet search)  3. Who you talked with or what site gave you the information (include the website address if you did a web search)  4. Discuss what you found and how it can help you calculate dry matter yield in the future. |
| **Links/Uploads** | *Unit Six Assignment .pdf* |
| **Content**  **Attribution** | James Donaldson, course developer |

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| **Unit 7** | |
| **Title** | **“Equipment, Planting and Maintenance”** |
| **Landing Page**  **Image** | C:\Users\Kristin\Dropbox\SLF_150_Pasture Management\SLF 150_Pasture Management\Images\Course Home and Landing Page Images\Unit Seven Landing.png  *Unit Seven Landing .png* |
| **Image/Image**  **Attribution** | http://farm1.staticflickr.com/58/227607861_be247ec2ce_t.jpg  “Harvested Grass Seed field” by born1945 CC BY 2.0  <http://www.flickr.com/photos/12567713@N00/227607861/>  Harvested Grass Field.jpeg  9303122151_88fa45d158_t “20130712-AMS-LSC-0375.jpg” by U.S. Department of Agriculture CC BY 2.0 <http://www.flickr.com/photos/usdagov/9303122151/>  HayTractor.jpeg  9299760159_4e2a7ae342_t “20130712-AMS-LSC-0670.jpg” by U.S. Department of Agriculture CC BY 2.0 <http://www.flickr.com/photos/usdagov/9299760159/>  ChickensFence.jpeg  9626018912_cde2c60713_t “Tilling the Fields” by United Soybean Board CC BY 2.0<http://www.flickr.com/photos/unitedsoybean/9626018912/> Field Cultivator.jpeg |
| **Content**  **Overview** | In this unit you will learn about the tools and equipment you need for pasture maintenance and management. You will also learn about methods, timing and appropriate seeding rates for establishing pasture forage species. |
| **Objectives** | In this unit you should:   * Identify tools and equipment used for pasture management. * Describe all appropriate methods of planting and establishing the forage species studied. * Identify appropriate timing for seeding the forage species studied. * Identify appropriate seed rates for the forage species studied. |
| **Outcomes** | * Know the various tools and equipment for pasture management. * Be able to describe and identify methods, timing and appropriate seed rates for forage species studied. |
| **To-Do-List** | 1. Read “Hay and Pasture” pages 1-7 (stop at “Hay Harvest Management section) by Jim Morrison from the Rockford Illinois Extension Center  2. View the Power Point: “Tools and Equipment for Pasture Management”  3. Watch the videos: “Brush Cutter” and “How To: Operate and Drive a Tractor: Part 1”  4. Complete the Dropbox Assignment: “Final Project Rough Draft” (25 pts)  5. Complete the Discussion Board: “Final Project Discussion” (25pts)  6. **No Quiz this week!** The Discussion Post is worth an additional 10 points.  **Plow** – used to prepare soil for planting. Turns over the top layer of soil, burying weeds and bringing nutrients to the surface. Preventative maintenance includes: checking wing blades,  hydraulic hoses and connections and wing markers.  **Disc**–  used to prepare soil for planting by  turning over soil, loosening soil and removing weeds. Preventative maintenance includes greasing zerts or replacing barring's.  Some farmers have moved away from using discs because they cause soil compaction and  inhibits  the roots of crops penetrating deeper into the soil. This is not usually a problem for forages as they germinate in  the top quarter inches of the soil.  **Seed Drill** - A seed drill positions the seed in the soil and then  covers them.  For preventative maintenance grease  every 100 hours , wash when done for season and clean hopper and seed boxes out.  **Broadcast Seeder -** spreads or “slings” the seed across the ground then pushes it into the soil.  After you use  it make sure fittings are greased and box is cleaned out. |
| **Links/Uploads** | *SLF 125\_Unit Seven Instructions.doc* |
| **Unit 7 Activities** | |
| **Reading** | **“Hay and Pasture”** |
| **Image/Image Attribution** | http://farm5.staticflickr.com/4014/4718272365_47b3e96d05_t.jpg “Hay Bales” by Timo Newton-Syms CC BY-SA 2.0<http://www.flickr.com/photos/timo_w2s/4718272365/> BalesSun.jpeg |
| **Content** | Read the article “Hay and Pasture” pages 1-7 (stop at “Hay Harvest Management section) by Jim Morrison from the Rockford Illinois Extension Center <http://extension.cropsci.illinois.edu/handbook/pdfs/chapter06.pdf>  This reading gives a detailed and in-depth look at establishing pasture grasses and legumes, forage and seeding rate recommendations.   * How can you evaluate older hay pastures? * What are the steps to follow to renovate a pasture? * What are best seeding dates? * What are some forage seeding-rate recommendations for Illinois hay and pasture? * What are some differences between band seeding and broadcast seeding? * What is proper seeding depth? |
| **Content Attribution** | Jim Morrison from the Rockford Illinois Extension Center  James Donaldson, course developer |
| **Links/Uploads** | <http://extension.cropsci.illinois.edu/handbook/pdfs/chapter06.pdf> |
| **Power Point** | **“Tools and Equipment for Pasture Management”** |
| **Content** | View the Power Point content “Tools and Equipment for Pasture Management” |
| **Links/Uploads** | *Unit Seven Power Point.pptx* |
| **Content Attribution** | James Donaldson, course developer |
| **Images/Image Attributions** | 9626018912_cde2c60713_t “Tilling the Fields” by United Soybean Board CC BY 2.0<http://www.flickr.com/photos/unitedsoybean/9626018912/> Field Cultivator.jpeg  http://farm6.staticflickr.com/5166/5249327029_93c2508d2c_t.jpgUsed in Reading & Audio (Tools & Equipment Used in Pasture Management)  “Tools” Photo By velacreations, CC By 2.0  http://www.flickr.com/photos/35090117@N05/5249327029/in/photolist-  410908523_e33c1ba003_t “grey Team 03.jpeg” by Nikki CC BY-SA 2.0<http://www.flickr.com/photos/nikkis_pikkis/410908523/> Horses Discing.jpeg  466536576_e43a987114_t “0420 spring work” by David Morris CC BY 2.0<http://www.flickr.com/photos/revdave/466536576/> TractorDiscing.jpeg  9183333509_cebbdc2418_t “Hay Baling - Small Square Bales - Co. Meath Ireland - July 1st 2013” by Peter Mooney CC BY-SA 2.0<http://www.flickr.com/photos/peterm7/9183333509/> SquareBales.jpeg  9183339599_fa204a5db3_t “Hay Baling - Small Square Bales - Co. Meath Ireland - July 1st 2013” by Peter Mooney CC BY-SA 2.0<http://www.flickr.com/photos/peterm7/9183339599/> SquareBales2.jpeg  2626198178_ef5dfcfa0b_t “Baling the hay” by peggydavis66 CC BY-SA<http://www.flickr.com/photos/11441121@N04/2626198178/> Roundbales.jpeg  2819346580_d569c9ce3a_t “Untitled” by Claus Rebler CC BY-SA 2.0<http://www.flickr.com/photos/zunami/2819346580/> Square Bale Row.jpeg  5560244479_95f0b774c6_t “Baling at Sunset” by possumgirl2 CC BY-SA 2.0<http://www.flickr.com/photos/possumgirlpics/5560244479/> Square Bale Out.jpeg  8139377444_7d2fd6908a_t “Spring Harrowing” by USFWS Mountain Prairie CC BY 2.0<http://www.flickr.com/photos/usfwsmtnprairie/8139377444/> Harrowing.jpeg  288435355_6786a149e4_t “Dadford Harrow” by Keith Williams CC BY 2.0<http://www.flickr.com/photos/92306213@N00/288435355/> Harrow.jpeg  3155581094_0f20b1fbbf_t “Speed the harrow” by lostinfog CC BY-SA 2.0<http://www.flickr.com/photos/lostinfog/3155581094/> Harrow Tracks.jpeg  9626005388_a400d7b780_t “Tilling the Fields” by United Soybean Board CC BY 2.0<http://www.flickr.com/photos/unitedsoybean/9626005388/> Tilling,jpeg  2638213099_a4acf1a6ca_t “Foin 2008 – Hay 2008” by Lucie Provencher CC BY-SA 2.0<http://www.flickr.com/photos/gattou/2638213099/> Hayloader.jpeg  22134723_90b1f56344_t “loading hay” by liz west CC BY 2.0<http://www.flickr.com/photos/calliope/22134723/> Hayloaders.jpeg  304760097_1d9026178e_t “Railroad Brush Cutter” by brewbooks CC BY-SA 2.0<http://www.flickr.com/photos/brewbooks/304760097/> Railroadbrushcutter.jpeg  6982908586_5137dbbf6f_t “New mower” by Tim Wilson CC BY 2.0<http://www.flickr.com/photos/timwilson/6982908586/> RidingMower.jpeg  5907890584_a97c1e21f0_t “Vermeer TM1400 Trailed Mower” by Edmund Garman CC BY 2.0<http://www.flickr.com/photos/3cl/5907890584/> Tractor Mower.jpeg  4338754972_12ff6c72a4_t “Polaris RZR ATV” by Pete Markham CC BY-SA 2.0<http://www.flickr.com/photos/pmarkham/4338754972/> ATV1.jpeg  181080368_016e6024cb_t “ATV Riding Trails On Kauai, Hawaii” by TRAILSOURCE.COM CC BY 2.0<http://www.flickr.com/photos/trailsource/181080368/> ATV2.jpeg  3521143839_acb8a6dbfe_t “Nicely polished plow” by Dwight Sipler CC BY 2.0<http://www.flickr.com/photos/photofarmer/3521143839/> Plow.jpeg  6312683001_28f2a2dd0a_t “Ploughing near Saxby All Saints” by David Wright CC BY 2.0<http://www.flickr.com/photos/dhwright/6312683001/> Tractor Plow.jpeg  6595065949_115385044b_t “20111110-OC0-AMW-0247” by U.S. Department of Agriculture CC BY 2.0<http://www.flickr.com/photos/usdagov/6595065949/> Side Rake.jpeg  9002783266_a6dfacc7e8_t “Dibble sticks, donkeys and diesels\_p224” by IRRI Photos CC BY 2.0<http://www.flickr.com/photos/ricephotos/9002783266/> Mower Conditioner.jpeg  5760981020_ea50b351ed_t “Silage Harvesting - Co. Meath, Ireland. May 2011” by Peter Mooney CC BY-SA 2.0<http://www.flickr.com/photos/peterm7/5760981020/> Mower Conditioner 2.jpeg  7303657976_74bcdd6784_t “USDA NRCS Plant Materials Center’s Drill” by USDA NRSC South Dakota CC BY-SA 2.0<http://www.flickr.com/photos/nrcs_south_dakota/7303657976/> Plant Drill Up Close.jpeg    6220267993_9da48e6715_t “Seed Drilling on Saxby Wold” by David Wright CC BY 2.0<http://www.flickr.com/photos/dhwright/6220267993/> Seed Drilling.jpeg  http://farm5.staticflickr.com/4129/5223639947_f7897d81aa_t.jpg “Truax Broadcast Seeder” by USFWS Mountain Prairie CC BY 2.0<http://www.flickr.com/photos/usfwsmtnprairie/5223639947/> Broadcast Seeder.jpeg  http://farm9.staticflickr.com/8076/8318369956_9843d0b167_t.jpg “Native Species Planting in Restoration Area” by USFWSmidwest CC BY 2.0<http://www.flickr.com/photos/usfwsmidwest/8318369956/> Broadcast Seeder 2.jpeg  9552998663_4e116690e6_t “IMG\_1315 (2400x1600)” by Chafer Machinery CC BY 2.0<http://www.flickr.com/photos/chafermachinery/9552998663/> Tractor Sprayer.jpeg  9555779720_84afbd88e1_t “IMG\_1341 (2400x1600)” by Chafer Machinery CC BY 2.0<http://www.flickr.com/photos/chafermachinery/9555779720/> Sprayer arm close up.jpeg  6099165238_b08e8f14a7_t “Omar Delaware” by Lee Cannon CC BY-SA 2.0<http://www.flickr.com/photos/leecannon/6099165238/> Tractor Weed Sprayer.jpeg  9555762324_2eb9f042be_t “IMG\_1418 (2400x1600)” by Chafer Machinery CC BY 2.0<http://www.flickr.com/photos/chafermachinery/9555762324/> Post Emergence Spraying.jpeg |
| **Video** | **“Brush Cutter”** |
| **Content** | Watch the video “Brush Cutter” located at <http://www.youtube.com/watch?v=ZOAiNEHrWAQ>  This video gives you an in-depth look into brush cutter operation and use. |
| **Content Attribution** | “Brush Cutter” by PublicResourceOrg <http://www.youtube.com/watch?v=ZOAiNEHrWAQ> [Creative Commons Attribution license](http://www.youtube.com/t/creative_commons" \t "_blank) (reuse allowed) |
| **Video** | **“How To: Operate and Drive a Tractor: Part 1”** |
| **Content** | Watch the video "How To" Operate and Drive a Tractor: Part 1” located at <http://www.youtube.com/watch?v=TX5J5suE-Gs>  This video gives a general overview of operating and driving a tractor including the 3 point hitch assembly, names and components. |
| **Content Attribution** | "How To" Operate and Drive a Tractor: Part 1” by EverythingAttachment <http://www.youtube.com/watch?v=TX5J5suE-Gs>  Standard YouTube License |
| **Dropbox Assignment** | **“Final Project Rough Draft**  **”** |
| **Image/Image Attribution** | http://farm4.staticflickr.com/3373/3204993444_a74822bde1_t.jpg “Renegade Grass” by ..stiina..” CC BY 2.0<http://www.flickr.com/photos/34419934@N03/3204993444/> GrassWood Fence.jpeg |
| **Content** | In preparation for this Dropbox assignment please review the final project assignment sheet that we discussed in our last live seminar (attached as reading). Additionally, read the articles  “How Green Is Your Grass? Five Steps to Better Pasture and Grazing Management” located at: <http://clark.wsu.edu/horticulture/smallAcreageProgram/PastureGrazingMgmt.pdf>  And “How to Develop Your Own Farm” located at  <http://www.agry.purdue.edu/ext/forages/rotational/pastures/pasture.html> (click on the link toward the bottom of the page titled “How to develop your own farm”).  After you have completed the readings, create a **rough draft outline** of your final project in Microsoft Word. Use the final project assignment sheet to guide your outline. Underneath each required component give your intended path for your pasture management plan. Remember this is just a **rough draft** and is intended to help you get your ideas down on paper. **Do not worry about length or changing your mind.** Next week you will finalize your ideas for the completion for this final project.  Once you have finished, upload your document to the Dropbox. This assignment is worth 25 points. |
| **Links/Uploads** | *Unit Seven Assignment .pdf*  *Final Project Assignment Sheet.doc*  “How Green is Your Grass? FiveSteps to Better Pasture and Grazing Management” <http://clark.wsu.edu/horticulture/smallAcreageProgram/PastureGrazingMgmt.pdf>  “How to Develop Your Own Farm”  <http://www.agry.purdue.edu/ext/forages/rotational/pastures/pasture.html> |
| **Content Attributions** | “How Green is Your Grass? FiveSteps to Better Pasture and Grazing Management” Washington State University Clark County Extension  “How to Develop Your Own Farm”  Copyright © 2007, Purdue University, [all rights reserved](http://www.purdue.edu/Purdue/disclaimer/).  James Donaldson, course developer |
| **Discussion Board** | **“Final Project Discussion”** |
| **Content** | Once you have finished your Unit 7 Assignment, posted to the Course DropBox, also post your document to the discussion board. Respond to at least one other classmates post by giving feedback, asking a question or suggesting additional ideas. This exercise is meant to help everyone share ideas and get feedback on the assignment. In addition, the discussion can hel0 you to develop a plan that fits your future pasture(s) as well as meet requirements of the final project. |
| **Content**  **Attribution** | James Donaldson, course developer |

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| **Unit 8** | |
| **Title** | **“Rotations and Management Plans”** |
| **Landing Page**  **Image** | C:\Users\Kristin\Dropbox\SLF_150_Pasture Management\SLF 150_Pasture Management\Images\Course Home and Landing Page Images\Unit Eight Landing.png  *Unit Eight Landing.png* |
| **Image/Image**  **Attribution** | http://farm9.staticflickr.com/8222/8292406140_afafc8bf74_t.jpg “1112” by U.S. Department of Agriculture CC BY 2.0<http://www.flickr.com/photos/usdagov/8292406140/> Rotational Grazing System.jpeg  http://farm7.staticflickr.com/6020/5911766272_207a04ab08_t.jpg “PB220003 Fresno State Cattle are out standing in their field” by David Prasad CC BY-SA 2.0<http://www.flickr.com/photos/33671002@N00/5911766272/> CattleStanding.jpeg  2871770530_78b14978ef_t  “fresh/fertilized” by Joe CC BY 2.0  <http://www.flickr.com/photos/18474854@N00/2871770530/>  ChickensGreen.jpeg  9305900466_7fd72ef17f_t “20130712-AMS-LSC-0366.jpg” by U.S. Department of Agriculture CC BY 2.0 <http://www.flickr.com/photos/usdagov/9305900466/>  OpeningGate.jpeg |
| **Content**  **Overview** | In this unit you will apply what you have learned in this class to developing your own comprehensive pasture management plan. |
| **Objectives** | In this unit you should:   * Develop a comprehensive pasture management plan for a real or hypothetical pasture-based livestock operation. * Develop a grazing rotation for a real or hypothetical pasture-based livestock operations. |
| **Outcomes** | * Understand the process for developing a pasture management plan and a grazing rotation plan for a pasture-based livestock operation. * Be able to apply understanding of the processes studied within the course and develop a comprehensive pasture management plan and grazing rotation plan for a pasture-based livestock operation. |
| **To-Do-List** | 1. Read “Planning Fencing Systems for Controlled Grazing”  2. Watch the three short videos: “Winter Grazing – a Better Way to Feed,” “Winter Grazing Standing Corn with Beef Cows” and  “Farm Layout for Prescribed Grazing”  3. Complete Dropbox Assignment: “Final Project: A Pasture Management Plan” |
| **Links/Uploads** | *SLF 125\_Unit Eight Instructions.doc* |
| **Unit 8 Activities** | |
| **Reading** | **“Planning Fencing Systems for Controlled Grazing”** |
| **Image/Image Attribution** | http://farm9.staticflickr.com/8107/8578619736_a219f4c027_t.jpg “20130307-OC-RBN-4040” by U.S. Department of Agriculture CC BY 2.0<http://www.flickr.com/photos/usdagov/8578619736/> GatedFence.jpeg |
| **Content** | Navigate to the Oregon State University Extension Douglas County site at <http://extension.oregonstate.edu/douglas/> then go to the “Programs” option listed on the right hand side and choose “Livestock and Forage.” Then choose #1 “Information on Livestock and Forage production” (publications) located under the “content” heading in the middle of the main page. Choose #3 on the topic list “Pasture and Forage.” Finally click on #1 “Virginia Coop Ext” to read about planning and building fences for controlled grazing pastures.   * What categories can farm resources be divided into for a controlled grazing fencing plan? * How can you evaluate on-farm resources to help you start a fencing layout plan? * What are some on-farm resources you must consider as you plan a fencing layout? * What kinds of maps will help you plan your fencing system? * What steps should you follow to successfully implement your fencing system plans? |
| **Links/Uploads** | LINK to website: <http://extension.oregonstate.edu/douglas/>  LINK to article PDF: <http://pubs.ext.vt.edu/442/442-130/442-130_pdf.pdf> |
| **Content Attribution** | Virginia Cooperative Extension  Susan Wood Gay, Extension Engineer, Virginia Tech  S. Ray Smith, Extension Forage Specialist, Virginia Tech  Gordon E. Groover, Extension Agricultural Economist, Virginia Tech  James Donaldson, course developer |
| **Video Assignment** | **“Winter Grazing and Prescribed Grazing”** |
| **Content** | View the following videos on winter grazing and prescribed grazing. These videos detail how to adopt a plan for winter grazing as well as prescribed grazing.  1. “Winter Grazing – a Better Way to Feed” located at <http://www.youtube.com/watch?v=PIHDmlUQ-1o>  2. “Winter Grazing Standing Corn with Beef Cows” located at  <http://www.youtube.com/watch?v=IJR8BOczm_Y>  3. “Farm Layout for Prescribed Grazing” (NRCS – USDA website) <http://www.youtube.com/watch?v=En-SaFxubFk> |
| **Content Attributions** | “Winter Grazing – a Better Way to Feed” by USDA NR CS ENTSC Standard YouTube license  <http://www.youtube.com/watch?v=PIHDmlUQ-1o>  “Winter Grazing Standing Corn with Beef Cows” by Winter Beef Development Center (WBDC) Standard YouTube License <http://www.youtube.com/watch?v=IJR8BOczm_Y>  “Farm Layout for Prescribed Grazing” by NRCS – USDA Standard YouTube License  <http://www.youtube.com/watch?v=En-SaFxubFk>  James Donaldson, course developer |
| **Dropbox Assignment** | **“Final Project: A Pasture Management Plan”** |
| **Content** | Using the rough outline that you created last week for the Discussion Post, feedback you received from classmates and all course materials we have studied during the semester follow the directions listed in the Final Project Assignment Sheet to successfully complete the final project for this class. This project is worth 125 points.  **Please Note:** You will need to specifically use the “Determining Your Stocking Rate” reading from Unit Five to answer number four on the Final Project Assignment sheet. This reading is attached as a link for you to reference. |
| **Links/Uploads** | *Final Project Assignment Sheet.doc*  *“Determining Your Stocking Rate” reading from Unit Five* [*https://extension.usu.edu/htm/publications/publication=6247*](https://extension.usu.edu/htm/publications/publication=6247)  Use this reading to answer question four of the final project assignment sheet. |
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