

Sustainability in the Southern High Plains

Identification

Unit Topic: Sustainable Agriculture in the Southern High Plains

Lesson Title: Other Factors Affecting the Sustainable Project

Objectives (TSWBAT-The student will be able to...)

- Identify changes in weed cycles after the integrated project was conducted, using basic data on weed types and amounts, given the basic data.
- List major diseases associated with each crop utilized in the system, given common diseases, with no error.
- List major insect pests affecting crops utilized in the system, given reading material concerning insect populations in Southern High Plains.
- Explain using three examples how integrating crops and livestock can alleviate pests that are detrimental to crops in Southern High Plains, given examples of pests and lecture.

Teaching Materials and Resources (What do you need to bring?)

- An old shirt that you don't mind cutting up and staining
- A little bit of old coffee
- Scissors
- A few markers
- Student workbook

Teaching Procedures– Preparation, Presentation, Application, Evaluation

Preparation (Interest Approach/Motivator)

<p>Key Points</p> <ul style="list-style-type: none"> – Display old shirt and explain that it looks alright, then pour coffee on one spot of the shirt, rip the shirt in several areas, and then mark on the shirt with a marker. Show how the shirt is not as valuable now. – Relate how the coffee was analogous to plant diseases, how the scissors were analogous to insects eating holes in plants, and how the markers are analogous to the different types of weeds. 	<p>Methods</p> <ul style="list-style-type: none"> – Teacher demonstration. – Explanation of activity.
<ul style="list-style-type: none"> – Will the integrated crop/livestock system cause some of these pests to go away? 	<ul style="list-style-type: none"> – Teacher-led questioning.

<ul style="list-style-type: none"> – Review objectives <ul style="list-style-type: none"> – Identify weeds affecting the project – Identify insects affecting the project – Identify common diseases of crops that are in the project – Understand how crop rotations can interrupt pest cycles 	<ul style="list-style-type: none"> – Review objectives.
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Presentation (The Content)

<p>Key Points</p> <ul style="list-style-type: none"> – Begin discussing weeds common to crops in Southern High Plains, giving weed names and key information about each weed. – Discuss diseases affecting crops and effects of these diseases on the end product. – Discuss insects common to Southern High Plains crops. – Show data results showing changes in weed, disease, and insect populations. 	<p>Methods</p> <ul style="list-style-type: none"> – Chalkboard lecture; show students an example of a table to use in taking notes. – Continue note-taking table. – Continue note-taking table. – Using data from student handout, discuss how pest cycles are interrupted.
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Application (What will they do with what you taught?)

<p>Key Points</p> <ul style="list-style-type: none"> – Reflecting on posters made by the students, have students explain what pest might present problems to your design. 	<p>Methods</p> <ul style="list-style-type: none"> – Teacher-led questioning.
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Evaluation (How do you know they learned it?)

<p>Key Points</p> <ul style="list-style-type: none"> – List key weeds, insects, and diseases associated with the crops. – Did the integration of the system work? 	<p>Methods</p> <ul style="list-style-type: none"> – Oral questioning.
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– Why do you think it worked?	
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