Module 5: Land Use and Management
Participant Guide
The Business of Indian Agriculture

MODULE 5: Land Use and Management

Lessons

This module covers the following lessons:

- Introduction to Native American Land Use and Management.
- Knowing Your Land.
- Understanding Land Transactions and Rights.
Module 5: Land Use and Management

LESSON 1: Introduction to Native American Land Use and Management
LESSON 1: Introduction to Native American Land Use and Management.

Lesson Topics
This lesson covers the following topics:

- Historical and Traditional Examples of Native American Land Use and Management.
- Basic Considerations of Native American Land Use and Management.
- Respecting Cultural and Sacred Sites.

Learning Objectives
Upon completion of this lesson, participants will:

- Understand the history and traditions of land use and management for the local tribal community.
- Understand the basic principles of Native American land use and management.
- Understand the importance and strategies for respecting cultural and sacred sites.

Definitions

Whole farm planning: a process that takes a holistic view of the farm and incorporates the various needs of the agribusiness, farm family, community and environment into a single integrated management plan.
TOPIC 1: Historical and Traditional Examples of Native American Land Use and Management.

**Learning Outcome:** Students will understand the history and traditions of land use and management for the local tribal community.

- Native Americans have had a long and close relationship with the land. This history and relationship is important to know because it forms the basis of many of the Native American land use and management issues that are faced today.

  - Contrary to some stereotypes of Native Americans who left no mark on the land, tribal communities used sophisticated natural resources, land use, and land management techniques to make best use of their environment.

  - While it is difficult to generalize across all tribes, some basic traditional Native American land use and management principles could be described as:
    - Land use and management practices were developed from experience gained through long periods of careful observation, trial and error.
    - Land use and management practices strive for maximum sustained yield instead of maximum production.
    - Land use and management practices respect the balance and connection between the natural and spiritual worlds.

  - From the nineteenth century to today, rapid changes in how land is used and managed have taken place as a result of human settlement, treaties and other agreements, federal laws and policies, economic factors, technological advances, environmental concerns and many other factors.

  - Each tribe has its own unique history and traditions associated with its land use and management. The particular land use and management issues will depend on the land’s geology; climate; wildlife and plant life; economic opportunities; cultural, social and spiritual considerations; and more.
TOPIC 2: Basic Considerations of Native American Land Use and Management.

Learning Outcome: Students will understand the basic considerations of Native land use and management.

- Whether you already own land, are inheriting land, are purchasing or leasing land, land use and management is a major consideration for your agribusiness.
  - How you use and manage your land will determine, in large ways, the success of your agribusiness.
  - Just because the land has always been used and managed a certain way, does not mean that you shouldn’t consider the basic questions about how the land can be best used and managed now.
    - For example, changes over time in agricultural technologies, plant and animal breeding, the economy, land planning and zoning policies, and even the climate can change the way the land can be best used and managed.

- There are many factors that influence how agricultural land is used and managed.
  - The physical and natural properties of the land play an important role in determining how the land is used and managed. The soil types, climate and terrain help determine what agricultural crops and livestock can be supported.
    - For example, one reason that about two-thirds of Montana agricultural land is grazed is that there is not enough rainfall to support crops.
  - The types of crop varieties and/or livestock breeds that are available and suitable for the land also help determine land use and management.
  - The agricultural technologies and production techniques that are available to the land manager are also important. Remember that while some advanced technologies or techniques might exist, they might be too expensive or impractical for your agribusiness.
  - The agricultural marketplace also determines what can be economically sustained by the land. For example, the land might support the growth of a particular crop, but if that crop is not economically valuable, then it is not a good use for an agribusiness. (Of course, they may be other good non-economic reasons for growing particular crops).
Land planning and zoning policies passed by local governments play a role in how land can be used and managed. These policies are often the result of different values and interests in the community.

Finally, remember that farming and ranching is often much more than just raising crops and livestock. Farm and ranch operations may include firewood production, feed manufacturing, agritourism, fruit/vegetable stands, slaughterhouses, retail sales, and other agriculture-related activities. These other potential uses need to be factored into a land use and management plan.

One of your first steps in land use and management planning is to assess the land in terms of its agricultural potential. There are several land assessment tools, and you should consult with your local agricultural experts (such as USDA's Natural Resource Conservation Service NRCS) for the best tool for you.

One popular assessment tool is the Agricultural Land Evaluation and Site Assessment (LESA) system, which helps to determine the quality of land for agricultural uses, and assesses land for its agricultural economic potential.

- The LESA system was developed by USDA's NRCS and can be used by local planners, landholders, developers and government officials to make land use decisions.

The next step is to become familiar with the local land planning and zoning policies that affect your land. There may be laws and regulations associated with city, county, state and tribal governmental entities.

- If your land is Indian trust land or within Indian reservation boundaries, then there may be additional regulatory considerations (see Lesson 4: Understanding Indian Land Regulations for more details). Additionally, there may be cultural and/or spiritual considerations (see next topic).

Another important consideration in land use and management is conservation. Most farmers and ranchers understand and appreciate the need to protect their natural resources so that the land will continue to support their livelihood, as well as support healthy families and communities.

- There are a range of conservation practices and programs that have been developed to assist the farmer and rancher in managing natural resources in a sustainable way.

- Many of these conservation practices and programs have been implemented in local areas to test their effectiveness.
USDA’s NRCS offers several conservation assistance programs, such as:

- The Conservation Technical Assistance (CTA) program provides land users with conservation technology and delivery systems that help reduce soil erosion, improve water quality, protect fish and wildlife habitat and improve the long-term sustainability of the land.

- Conservation Innovation Grants (CIG) is a voluntary program that helps to stimulate the development and adoption of innovative conservation practices and technologies that work with agricultural production.

- The Conservation Stewardship Program (CSP) is a voluntary conservation program that offers payments to producers who maintain a high level of conservation on their land and who agree to adopt higher levels of stewardship. Eligible lands include cropland, pastureland, rangeland and non-industrial forestland.

- The Environmental Quality Incentives Program (EQIP) provides financial and technical assistance to farmers, ranchers and non-industrial private forest land owners who have challenges to soil, water and air quality, wildlife habitat, surface and groundwater conservation, energy conservation, and related natural resources on their land.

- The Conservation of Private Grazing Land (CPGL) initiative provides technical and educational assistance to people who own private grazing lands. The technical assistance supports managing grazing land more effectively, protecting soil from erosion, conserving water, providing habitat for wildlife, and sustaining forage and grazing plants.

USDA’s Farm Service Agency (FSA) also administers the Conservation Reserve Program (CRP), which is a voluntary program for agricultural landowners who can receive annual rental payments and cost-share assistance to establish “long-term, resource conserving covers on eligible farmland.”

- FSA also administers the Conservation Reserve Enhancement Program (CREP), which is a voluntary land retirement program that helps agricultural producers protect environmentally sensitive land, decrease erosion, restore wildlife habitat, and safeguard ground and surface water.
Tribal conservation districts have been formed to support tribal efforts to provide for the use, protection, conservation and restoration of reservation lands. Tribal conservation districts provide assistance to land owners/users and managers in the conservation and smart use of land and natural resources.

- They also help coordination between tribal governments, tribal natural resource managers, NRCS, and other federal, state, local and private entities.
- As an example, there are three tribal conservation districts working with NRCS in Montana, functioning alongside the 58 conservation districts that are organized under state law.
  - In addition to the tribal conservation districts, the Tribal Conservation Issues Committee in Montana functions as a tribal conservation advisory council to the NRCS State Conservationist. The committee is made up of tribal representatives from each reservation, as well as tribal conservation district representatives.

Whole farm planning is a process that takes a holistic view of the farm and incorporates the various needs of the agribusiness, the farm family, the community, and the environment into a single integrated management plan.

- While the whole farm planning model is an excellent tool to use in the business planning phase, it is introduced in this lesson as a method for land use planning and management.
- Whole farm planning was developed, in part, as a response to the limitations of the single-purpose farm plans that often created conflicting priorities for farm families.
  - For example, some farms might have had an aggressive crop management strategy that created problems for its soil conservation goals.
  - Or, a farm might have had an agribusiness plan that demanded longer working hours, which conflicted with its family’s values and priorities of spending more time together.
- The point is that the agribusiness operator should not view natural resources and land use as separate from the other priorities of the business, family, and community. Lesson 3-4: Financial and Strategic Planning discusses whole farm planning in more detail.
TOPIC 3: Respecting Cultural and Sacred Sites.

**Learning Outcome:** Students will gain an appreciation and understanding for the need to respect cultural and sacred sites in land use and management.

- As mentioned earlier in this lesson, Native Americans have a deep historical relationship to the land in this country that involves a balance between the physical and spiritual worlds.
  - Many of the creation stories of Native American tribes tell how the people originated from the earth and the landscape. In some cases, these stories involve specific locations.
  - Over time, many sites on the land took on special significance because important historical, cultural and/or spiritual events took place there.
  - The spiritual and/or cultural meanings of these Native American sites are just as important as the sites of spiritual significance held by other religions and cultures around the world.
    - In many societies, churches, mosques, synagogues and cemeteries are considered as sacred sites, as should Native American sites.
  - Sacred sites can be viewed as part of the guarantee of freedom of religion that is established in the First Amendment to the U.S. Constitution.
  - The American Indian Religious Freedom Act (AIRFA) of 1978 states that it is the “policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise traditional religions including but not limited to access to sites...”

- For the agribusiness land owner or lease holder, showing respect for Native American cultural and sacred sites can mean several things from a practical standpoint:
  - First, remember that whole farm planning balances family, environmental and community goals with your business productions goals. Your community or social goals should include being a good neighbor and living in harmony with your community’s values. Maintaining good tribal relations is not only the right thing to do, it’s good for business too.
  - Next, learn about the potential for sacred and cultural sites on your land. Because the locations of many sacred sites are kept confidential to discourage desecration, this may be a sensitive task. Your first step should be to consult with the local tribes.
    - Many tribes have Cultural Preservation Offices or Tribal Historic Preservation Offices that research, map and manage cultural and sacred sites.
If the tribe does not have cultural or historic offices, then consult with the tribal lands management department or a similar tribal entity.

- If there are cultural and/or sacred sites on your land, then consider the following:
  - First, if the site is not already widely known, keep the location of the site confidential. Making its location public will only encourage unwelcome attention for both you and the tribe.
  - Second, learn more about the cultural/spiritual history and meaning of the site. You may be surprised and excited to learn about the importance of the location to the history of the tribe. Gaining knowledge about the site will help you have respect for it, as well as provide a better base for your decisions about the site.
  - Third, do not desecrate the site by removing objects or altering the site. Taking pictures or making drawings may not be acceptable. Check with the local tribal cultural expert if you have any questions.
    - If the site is located within productive agricultural land, then consider changing your farm practices to work around that specific location.
  - Fourth, to the extent possible, do not deny access to those who have spiritual/cultural reasons for visiting the site. Work with visitors to accommodate their spiritual/cultural practices. Often times, visits need to occur during specific times of the year.
  - Finally, work with the tribe to develop a co-management plan for the site that ensures that both your interests and the tribe’s interests are protected, and that there is a set of policies and procedures in place for dealing with issues that may come up.

References


USDA Farm Service Agency, Montana. nd. USDA NRCS Montana.


The Business of Indian Agriculture

MODULE 5: Land Use and Management

LESSON 1: Introduction to Native American Land Use and Management

Whole Farm Planning Resource Assessment Worksheet

Fill in the table on the next page with the strengths and weaknesses of the resources for your farm from the perspective of all members of the farm family. If you do not operate on a farm, think of an agribusiness or farm that you may be familiar with, or use a made-up farm or business. The important point is to learn the process of resource assessment, not the resources of any specific farm or agribusiness.

The table below provides some examples of a farm’s resource assessments:

<table>
<thead>
<tr>
<th>Farm Strengths and Weaknesses – Resource Assessment</th>
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<tbody>
<tr>
<td><strong>Natural Resources</strong></td>
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### Farm Strengths and Weaknesses – Resource Assessment

<table>
<thead>
<tr>
<th>Natural Resources</th>
<th>Infrastructure</th>
<th>People</th>
<th>Financial</th>
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<td>Strengths</td>
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<tr>
<td>Weaknesses</td>
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Adapted and reproduced for educational purposes, from Rhonda R Janke, *Whole-Farm Planning for Economic and Environmental Sustainability*, Kansas State University, August 2000.
Lesson Topics

This lesson covers the following topics:

• Natural Properties and Appropriate Agricultural Uses of Land.
• Land Demarcation, Mapping and Surveying.
• Sustainable Agricultural Management Practices.

Learning Objectives

Upon completion of this lesson, participants will:

• Understand the process of determining the natural properties and appropriate agricultural uses of land.
• Understand the process of land demarcation, mapping and surveying.
• Understand the importance and strategies for sustainable agricultural management practices.

Definitions

Fee simple land ownership: typically the most complete or absolute form of land ownership, which provides the owner full rights to sell or pass land to another by will or inheritance.

Indian trust land ownership: based on the General Allotment Act of 1887, which transferred legal title of Indian lands to the federal government. Indian nations and landowners retain “beneficial use” of the lands, which means they can use and earn income from the land and transfer ownership interests to their heirs.

Macroclimates: weather and long-term patterns that occur on a regional scale and include such things as typical weather fronts and storm patterns, prevailing winds, seasonal temperatures and daylight changes.

Microclimates: weather patterns that are affected by factors in your local land area and include influences such as hillsides, shelter belts, tree shade patterns, frost pockets and water ways.
**Organic agriculture**: an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain or enhance ecological harmony. The primary goal of organic agriculture is to optimize the health and productivity of interdependent communities of soil life, plants, animals and people (from the USDA National Organic Standards Board NOSB).

**Public Land Survey System (PLSS)**: a survey system that subdivides and describes public land in the United States. All public lands are subject to this rectangular system of surveys, which is regulated by the U.S. Department of the Interior, Bureau of Land Management (BLM).

**Sustainable agriculture**: an integrated system of plant and animal production practices having a site-specific application that will, over the long term: satisfy human food and fiber needs; enhance environmental quality and the natural resource base upon which the agricultural economy depends; make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls; sustain the economic viability of farm operations; and enhance the quality of life for farmers and society as a whole (from the 1990 Farm Bill).
TOPIC 1: Natural Properties and Appropriate Agricultural Uses of Land.

**Learning Outcome:** Students will understand the process of determining the natural properties and appropriate agricultural uses of land.

- Agriculture can be thought of as the controlled management of living organisms (primarily plants and animals) to produce food, fiber and other products for human use.
  - The inputs to the agricultural endeavor are physical, chemical, biological and climatic “ingredients” that include such things as:
    - Soils (physical and chemical inputs)
    - Moisture
    - Sun (heat and light)
    - Plants, animals and biological organisms

- Land is often loosely defined as some physical territory or property, but in an agricultural sense, land encompasses all the natural elements that interact with land to potentially support an agricultural use.
  - It includes the soils’ chemical and physical properties, terrain and way that climate has an effect on the land.
  - It includes the plants, animals and organisms that live on the land.
  - Although we don’t focus on this factor in this lesson, it also includes the human dimension that includes population impacts and planning and zoning policies.

- The first step in making the best use of your land is to know its basic properties: physical, chemical, biological and climatic.
  - Let’s start with your soil. Think of your soil as the basic building block for your agricultural operation. Before deciding upon your operation (or even acquiring the land), you should consider what the soil will support.
    - Knowing your soil type includes knowing about its structure and texture (for example, sand, loam, clay and organic matter), depth, its drainage characteristics, its slope and suitability for various agricultural or building uses.
Fortunately, most of this information has been gathered throughout the U.S. through soil surveys, is documented in soil survey maps, and is easily accessed.

- There is an excellent web-based resource, the Web Soil Survey (WSS), that provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA NRCS and provides information on the soils and ratings and suitability of various uses.

- If you cannot use the WSS, you can simply contact your local NRCS office and ask for the soil survey description for your land area.

The next step in knowing your soil (assuming that it is suitable for your agricultural plans) is to learn about its specific potential agricultural productivity in terms of its properties such as its pH (relative acidity), fertility (nutrients such as nitrogen, phosphorus, potassium) and water-holding capacity. A soil test is the next important step in this process of learning about your soils.

- Most soil tests will report on the basic properties and nutrients of the soil, but you should tailor your soil test with your specific agricultural plans in mind. For example, some tree crops may require additional soil tests.

- Contact your local extension office or the NRCS office to find out how to have a local soil test conducted.

- Remember that the soil can change in even relatively small land areas, so be sure to take soil samples wherever you think the soils will vary.

Next, it’s time to consider the climate. Climate generally consists of influences from sunlight, temperature, precipitation and wind. There are two scales of climate to consider: macroclimate and microclimate.

- Macroclimates are those weather and long-term patterns that occur on a regional scale and include such things as typical weather fronts and storm patterns, prevailing winds, seasonal temperatures and daylight changes.

- Macroclimate data about your land might include its USDA Plant Hardiness Zone rating, its frost-free days (including first and last frost dates) and annual rainfall. All these data are easily accessible and are based on large sets of historical data.
Microclimates are weather patterns that are affected by factors in your local land area and include influences such as hillsides, shelter belts, tree shade patterns, frost pockets and water ways. These microclimates are also important to know.

- Microclimate data about your land might vary considerably from the macroclimate data that you found. The best way to gather microclimate data is to carefully record weather patterns on your land and build up your own database.
- If possible, you might want to interview a previous landowner, and nearby neighbors to learn about local microclimate weather patterns.

Next, it’s time to consider the biological profile of your land. What plants, animals, insects and microorganisms does the land currently support? Answers to these questions will provide strong signals as to the appropriate use and management strategies for the land.

- What plant life currently exists on your land? If the land is already in agricultural use, the current cropping patterns can provide you with valuable data in terms of productivity (including yield, water use and nutrient uptake), pest and weed concerns, appropriate tillage and soil conservation practices and so forth.
- On the other hand, if the land is not in agricultural production, then the current plant community will show what natural processes have selected.
- While you may be able to alter the landscape to meet some agricultural needs, the greater the alteration from its natural state, the more intensive will be the management effort and the potential challenges.
- For example, if the natural plant community is described as semi-arid shortgrass prairie, then growing rice is not going to be a good fit.
- What animal life is present on the land? Consider how the current animal population can affect agricultural operations, and in turn, how agricultural operations will affect animal life.
  - For example, wildlife can present both opportunities and challenges to the agricultural operation.
  - Some wildlife provides opportunities for recreational activities (and tourism revenue) such as hunting and bird-watching.
• Other wildlife (sometimes called nuisance wildlife) can represent challenges to an agricultural operation (for example, prairie dogs, deer or birds).

• To the extent possible, working with the land’s wildlife, instead of against it, will make agricultural management easier.

  ▪ The soil biology is another important consideration. The organisms living in the soil are critical to soil quality, affecting the soil structure, which in turn affects soil erosion and water availability.

  ▪ Soil microorganisms can protect crops from pests and diseases, and they are central to decomposition and nutrient cycling, which influence plant growth.

  ▪ There are three main types of soil biology testing: population analysis, biological activity, and indirect indicators. Check with your extension specialist for details on how to have a test performed.

  ▪ Finally, a biological assessment can be conducted that provides general information on the potential presence of endangered species or sensitive habitats on the land. While endangered species or sensitive habitats is often viewed as an unwelcome challenge to agricultural operations, it is better to be forewarned than to be surprised.
TOPIC 2: Land Demarcation, Mapping and Surveying.

**Learning Outcome:** Students will understand the process of land demarcation, mapping and surveying.

- Perhaps the most fundamental question concerning the ownership of a parcel of land is its demarcation – where exactly is it, and how much land is there? First, you need to know where to look for the legal description of the land.
  - A deed must describe with reasonable certainty the land that is being identified, but the description does not require technical terms to be used. Land boundaries can be identified in property deeds by plat locations, in latitude and longitude degrees, as distances from known locations, or in other ways.
  - Typically if you are a non-Indian landowner or an Indian landowner with fee simple land, your county’s Recorder of Deeds Office will record and maintain for permanent record all documents related to real estate. Your deed will give you the legal description of the land but a surveyor is needed to use this information to precisely locate your property lines, and find or place stakes or other markers.

- Fee simple land ownership is typically the most complete or absolute form of land ownership, which provides the owner full rights to sell or pass land to another by will or inheritance.

- Indian trust land ownership is based on the General Allotment Act of 1887, which transferred legal title of Indian lands to the federal government. Indian nations and landowners retain “beneficial use” of the lands, which means they can use and earn income from the land and transfer ownership interests to their heirs.

- For Indian landowners who own land in trust, the Bureau of Indian Affairs (BIA) and more recently, the Office of the Special Trustee for American Indians (OST) is responsible for recording, storing and providing access to information about how much land you own and where it is located. As mentioned above, a surveyor is needed to physically locate the property boundaries.

- The BIA and OST use the Public Land Survey System (PLSS) to subdivide and describe public land in the United States. All public lands are subject to this rectangular system of surveys, which is regulated by the U.S. Department of the Interior, Bureau of Land Management (BLM).
- The local tribal land office or department is the first place to contact, as they typically provide information on land issues and services for residential, agricultural and commercial owners of tribal lands.

  o Land demarcation becomes more complicated when dealing with indigenous landholdings that are commonly held by the tribe.

    - For example, under Navajo common law, grazing rights are a land use right held by families, but they are not considered as individual land ownership. Individuals ordinarily confine their use and occupancy to an area of land inhabited by their ancestors, and this area is typically defined by natural markers (such as trees, streams or boulders).

    - Although indigenous land demarcation methods are certainly valid, they may lack the precision to establish U.S. legal property rights, or to access certain farm and conservation assistance programs.

    - If you are a communal tribal land user, your best course of action is to consult with your local tribal land office and the local USDA Service Center.

  ➢ Land mapping is a critical tool in knowing and managing your land. Fortunately, detailed maps and mapping systems are available for most areas within the U.S., and accessing these maps and map systems is easier than ever. There are many different types of maps and mapping systems used for many different purposes.

    o First, it is important to remember how points on earth are precisely located. Points on earth are located using a variety of coordinate systems.

      - The most common coordinate system today is latitude and longitude. The Prime Meridian (passing north/south through Greenwich, England) and the Equator are the reference grids used to define latitude and longitude. To locate points, latitude and longitude is measured in degrees, minutes and seconds.

        • For example, the city of Helena, Montana, is located at 46° 35’ 44.9”N  112° 1’ 37.31”W. That means 46 degrees, 35 minutes and 44.9 seconds north of the equator, and 112 degrees, 1 minute and 37.31 seconds west of the prime meridian.

      - Another less common but important coordinate system is the Universal Transverse Mercator (UTM) system. Unlike the latitude and longitude system, the UTM is a true rectangular grid system used specifically for maps. With the UTM system, the entire earth is divided into rectangular-shaped zones identified by a unique column (1-60). UTM points are measured as the grid column, an easting (meters east of the west grid boundary), and a northing (meters north of the equator).
• For example, Helena, Montana, is located at 12 42133 5160761. That means it is in zone column 12, and is 42,133 meters east of the zone boundary, and 5,150,761 meters north of the equator.

• Note that there is a more precise form of UTM which uses grid row letters to locate points. In this case, the row letter follows the column, as in 12T, and the northing is the meters north of the south grid boundary.

- The PLSS, which is used on public lands and Indian reservations, uses a grid of 6-mile-square townships. Townships are divided into 36 one-mile-square sections. Sections can be subdivided into quarter sections or quarter-quarter sections. A marker is usually placed at each section corner.

- PLSS surveys all have a starting point, and townships grids are established in all directions from the starting point. The line that runs north/south through the starting point is called the Principal Meridian. There are 37 named Principal Meridians that indicate which PLSS survey is being used. The line running east/west through the starting point is called a base line.

- PLSS areas are identified by township, range, and sections. Townships identify the grid location north or south of the baseline, and ranges identify the grid east or west of the Principal Meridian. Sections are the 36 one-mile-square areas.

  o For example, a township might be identified as Township 5 North, Range 3 West. That means it is in the 5th row of townships north of a baseline, and in the 3rd column of townships west of a Principal Meridian.

  o A legal land description includes the State, Principal Meridian name, Township and Range designations with directions and section number (and quarter fractions of sections). For example, South Dakota, Black Hills Meridian T7N, R2W, sec5, means the 5th section in township 7 rows north of a baseline and range 2 columns west of a Principal Meridian, of the Black Hills survey in South Dakota.

  o Quarter sections are designated by the quadrants SW1/4, NW1/4, SE1/4 and NE1/4, and quarter-quarter sections are designated by using two quarter section designations together, as in SW1/4 NE1/4 SEC 5, which means the southwest quarter-quarter of the northeast quarter of section 5.
Mapping is especially useful to farmers and ranchers in planning their operations and managing their land. Boundary maps are good for locating any easements or land-use restrictions. Field maps can help in managing and coordinating crop and livestock operations. Farm maps should include buildings and facilities, water ways, fence lines, and any sensitive ecological areas.

To develop a farm map, you need to create a base map using an existing aerial or topographic or other type of map, and then customize it for your needs.

- Perhaps the most accessible and easily understood mapping system is Google Earth. Simply go to the web, download the latest version, and then enter your address or an address of a nearby location. Then, use the navigation tools to locate your exact area of interest.

- Once you have located your area, there is a customized map feature that can be especially useful for farmers and ranchers. This free mapping service allows you to identify specific areas of your land for particular purposes, and then save it and share it by e-mail or web posting.

- Another easily used mapping system is also from Google. Many people have used Google Maps to help find their way from Point A to Point B, but it also has a customized map feature. You can e-mail your customized maps link to anyone, with instructions for field or range work such as applying fertilizer, spraying for weeds or fixing fences.

- Still another web-based tool is Terra Server, which will allow you to purchase customized aerial and topographic maps for your location.

- There are many other web-based and computer tools that can be purchased that allow the farmer and rancher to create their own custom maps of their land.

Next, add your unique farm features, such as property lines, fence lines, road, water ways, other important natural features (valleys, cliffs), homes, farm buildings and storage facilities.

- You may consider using map layers to separate your features into categories such as boundaries, water ways and natural features, buildings and facilities, cropping or planting, livestock and range and soils.

- Map layers are supported by computer GIS (Geographic Information System) programs, but can easily be created by drawings on transparency film that lay on top of the base map.
Land surveying is a highly skilled profession and should only be needed when precise (and perhaps legally valid) land positions are required. Legally, a person must be licensed as a surveyor to establish a property line.

- Surveying may only need to be done once when the land is initially bought or developed, or it may be needed at times when construction or development projects require surveying.

- Two types of surveying are most commonly used: boundary surveys (establishing property lines) and construction surveys (controlling elevation, position, dimensions and configuration of construction).

- There are other types of surveying, such as land classification surveys and soil surveys. These surveys have usually been done and there’s probably no reason to survey again.

- You should only work with a trusted and licensed surveyor to handle your surveying needs. They can guide you through the surveying process and ensure that your land is accurately and legally described.
TOPIC 3: Sustainable Agricultural Management Practices.

Learning Outcome: Students will gain an understanding of the importance and strategies for sustainable agricultural management practices.

➢ An important consideration in land use and management is the sustainability of agricultural practices. Few people would say that preserving the farm and its natural resources for future generations is not a worthwhile effort.

   o Unfortunately, “sustainability” has sometimes become a controversial issue, as the word has been used by a few people as a way to judge others.

   o A more constructive way to discuss sustainability is in terms of the practical benefits (and costs) to an agricultural operation, to the environment, and to future generations of farmers, ranchers and consumers.

   o The term “sustainable agriculture” has been used in various ways, and in this lesson its definition (from the 1990 Farm Bill) is: “an integrated system of plant and animal production practices having a site-specific application that will, over the long term:

      ▪ satisfy human food and fiber needs;
      ▪ enhance environmental quality and the natural resource base upon which the agricultural economy depends;
      ▪ make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls;
      ▪ sustain the economic viability of farm operations; and
      ▪ enhance the quality of life for farmers and society as a whole.”

   o In practice, sustainable agriculture means doing things such as:

      ▪ rotating crops to help prevent weeds, disease, insect and other pest problems;
      ▪ using alternative sources of soil nitrogen;
      ▪ reducing soil erosion;
      ▪ reducing water contamination by agricultural chemicals;
      ▪ controlling pests with strategies that are not harmful to natural systems, farmers, their neighbors or consumers;
      ▪ increasing mechanical/biological weed control;
      ▪ using soil and water conservation practices;
• using animal and green manures; and
• using inputs in a way that poses no significant hazard to man, animals or the environment.

- Of course, there are costs and benefits associated with every agricultural practice, sustainable or not.
  • For example, adopting a low- or no-tillage practice may mean added costs for weed control and new machinery, but also benefits of fuel cost savings and reduced soil erosion.
  • Costs and benefits should be evaluated in both the short-term and the long-term.
    - For example, some no-till short-term costs (such as increased weed control) could produce larger long-term benefits (conserving productive, irreplaceable soil).
    - Likewise, some no-till short-term benefits (such as reducing fuel use) could produce larger long-term costs (ongoing pest and disease problems).

> A good resource to help you evaluate your opportunities for more sustainable practices is USDA’s Sustainable Agriculture Research & Education program. SARE is organized by regions, with each region providing its own assistance programs.

- For example, the SARE Western Region offers several assistance programs:
  • **Research and Education Grants**: These grants involve scientists and producers who use interdisciplinary approaches to address sustainable agriculture issues.
  • **Producer Grants**: These are one- to three-year grants that are conducted by agricultural producers with support and guidance from a technical advisor. Producers typically use these grants to conduct on-site experiments that can improve their operations and the environment and can be shared with other producers. Grants may also focus on marketing and organic production.
  • **Professional + Producer Grants**: These grants are similar to the Producer Grants except instead of a producer serving as the project coordinator, an agricultural professional (such as a Cooperative Extension educator or NRCS professional) coordinates the project. The farmer or rancher serves as the project advisor.
  • **The Learning Center**: This website is a one-stop source to find newsletters, books, videos, top project reports, fact sheets and more about sustainable agriculture.
Organic agriculture is often mentioned in the same discussion as sustainable agriculture. Like sustainable agriculture, organic agriculture has its vocal supporters and skeptics. And also like sustainable agriculture, its use and definition are varied.

- In this lesson, organic agriculture is defined (from the USDA National Organic Standards Board - NOSB), as:
  - an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain or enhance ecological harmony. The primary goal of organic agriculture is to optimize the health and productivity of interdependent communities of soil life, plants, animals and people.

- “Organic” has also come to mean a marketing label that tells the consumer that products have been produced using certified organic methods. USDA administers a National Organic Program that manages organic certification and labeling.

- Adopting organic agricultural practices should be considered in a similar fashion as adopting sustainable agricultural practices. It should be evaluated for the specific farm or ranch operation based on a careful consideration of costs and benefits, in both the short- and long-term.

- It is important to note that, while sustainable and organic agricultural practices often go hand-in-hand, they are not strictly speaking the same thing. There can be organic practices that are not considered sustainable, and there can be sustainable practices that are not organic.

More recently, the “local food” movement has been a part of the sustainable agriculture discussion. As before, there is no consensus on the definition and use of the term “local foods.”

- Generally speaking, local foods are produced within some relatively close geographic area, and their production is considered as a way to strengthen local food systems that provides local economic benefits, reduce transportation and shipping costs and strengthen a community’s resilience against potential disruptions in the food supply chain. Promoting the consumption of seasonal foods is also considered part of local food principles.

- Similar to organic and sustainable agriculture, local food does not necessarily mean sustainable agriculture, or vice versa.
“Whole farm planning” is another term that is often used along with a discussion on sustainable agriculture.

- Whole farm planning complements sustainable agriculture because it involves a holistic view of the farm and incorporates the perspectives of different stakeholders (for example, family members and the community).

- As such, whole farm planning is a good way with which to evaluate the adoption of sustainable agricultural practices.

To conclude, sustainable agriculture is not a “one size fits all” deal. Each farm and ranch operation is unique, and any sustainable practices will need to be a good fit with the situation.

- Rather than viewing sustainable agriculture as a goal to achieve (like dieting to lose weight), it should be viewed as a way of living and working (like eating more healthy and exercising more often).

References


Padgett-Johnson, Merilark. 2002. *Developing a Farm Map. Publication 8062. FWQP Reference Sheet 7.5.* University of California, Division of Agriculture and Natural Resources.


A map can be a record of important features on the farmstead that can impact water quality. Drawing a farmstead map will make it easier to evaluate potential sources of pollution and to locate wells, septic tanks and absorption fields in the future when they need maintenance.

**WHY MAKE A MAP?**

While each property has physical features that cannot be changed, there are many practices that can minimize risks.

A farmstead map can indicate areas where efforts for improvement should be focused for the best return. Some of the Pennsylvania Farm•A•Syst worksheets will refer to locations and distances between various farmstead items and potential locations where farmstead practices or conditions can affect groundwater or surface water. A farmstead map can be a handy reference when completing these worksheets. The following farmstead map shows common features and can be used as a sample for an actual map.

**SAMPLE MAP**

Information derived from Pennsylvania Farm•A•Syst worksheets is intended only to provide general information and recommendations to farmers regarding their own farmstead practices. It is not the intent of this educational program to keep records of individual results. However, they may be shared with others who will help you develop a resource management plan.
**MAKING A MAP**

**Step 1:** Begin by looking at the format of the sample map.

**Step 2:** Sketch the farmstead layout on the blank map grid below. If the farmstead is large, try making two maps, one showing details around the home, and the other showing the remaining farmstead. Include all of the following that apply to the farmstead.
- property and field boundaries
- all buildings and other structures (home, barns, machine shed)
- active wells and unused wells
- septic system, drainfield
- nearest surface water (streams, ponds, drainageways)
- direction of surface water flow
- livestock barnyards and exercise areas
- manure storage (temporary and permanent)
- pesticide and fertilizer storage and handling areas
- milhouse waste disposal system

**Step 3:** Save this map and refer to it when completing the worksheets and when developing plans for changes after completing the worksheets.
Module 5: Land Use and Management

LESSON 3: Understanding Land Transactions and Rights
Lesson Topics

This lesson covers the following topics:

- General Considerations of Land Transactions.

Learning Objectives

Upon completion of this lesson, participants will:

- Understand the general considerations of land leasing and renting, purchasing and selling, and estate planning.
- Gain basic knowledge of water rights, mineral rights, easements and rights of ways.

Definitions

Easement: the right to use another person's property for a specific purpose. Easements can be specific to a part of the property or applied generally to the entire property. Easements can be bought and sold.

Right of Way: a special type of easement that gives someone the right to travel through a property owned by someone else.
TOPIC 1: General Considerations of Land Transactions.

**Learning Outcome:** Students will understand the general considerations of land leasing and renting, purchasing and selling, and estate planning.

- Land transactions are a basic part of doing business for many agribusinesses, especially for land-intensive farming and ranching operations. For most of us, land is the largest and most valuable business and personal asset that we will ever manage. There are several common types of land transactions:
  - You lease/rent land to others, or you lease/rent land from others.
  - You buy land, or you sell it.
  - You inherit land from your family, or you bequeath it to your family.

- In each of these situations, you assume a legal role with a set of financial and contractual rights, obligations and responsibilities. It is critical that you understand the legal aspects of land transactions so that you can protect your interests and fulfill your obligations.
  - This lesson will help you understand the general considerations of land transactions. However, this lesson does not represent any legal opinion or advice. You should always consult with a professional legal and/or real estate advisor before conducting any land transactions.

- Leasing or renting land can be an effective strategy for managing your agribusiness.
  - Renting is typically a month-to-month agreement, while leasing is an agreement set for a fixed term, usually in years.
  - Leasing or renting your land can generate steady sources of income from land that is not currently being used by the business.
  - Leasing or renting land from someone else can give your business access to land that it does not currently have, and can avoid large amounts of debt and fixed assets that land ownership usually involves.
  - Leasing or renting land assumes that you have made the careful decision to lease/rent instead of buy or sell land.
    - The decision to buy vs. rent land should include budget projections on the costs, returns and cash flows of both options. Also, market conditions can change, so include best case scenarios vs. worst case scenarios for each option.
Land prices, whether rental or purchase, should ultimately be based on the agricultural productivity of the land, market supply and demand, and interest rates.

Long-term planning is necessary to decide if shorter-term leasing/renting of land is the right decision for the business. Leasing land always has the risk that a lease may not be renewed for some reason.

- In tribal settings, leasing Indian trust land requires special considerations and processes. Contact your local tribal land department for more details.

There are several common types of leases: cash, crop-share, and flexible cash agreements.

- Cash leases/rents are the simplest and most common arrangement. They set a cash lease/rent price for the use of land, usually in dollars per acre each month or each year.
  - The tenant pays all the production costs (but not property taxes and insurance) and provides the labor.
  - The landlord can place restrictions on how the land is used. For example, they may say that particular crops are not grown, certain herbicides or pesticides are not applied, or that certain soil conservation practices be maintained.

- Crop-share leases/rents can be structured in a variety of ways and, as the name implies, the costs and profits of crops are shared among the tenant and landlord.
  - Typically, both tenant and landlord share a set percentage of the production costs and the profits.
  - The landlord usually receives a higher percentage of the income because they assume more risk with market prices and yield, and more production costs and capital.
  - The tenant receives less profit because they assume less risk, costs and capital.
  - The actual share percentages are negotiated depending on the levels of risk, cost and capital that the tenant and landlord assume.

- Flexible cash leases/rents are structured so that landlords and tenants share more risk together.
  - Lease/rent prices are set by a base price and adjustments are made according to rising or falling market prices and yield.
• For example, a base lease/rent price is first set with a base market price and a base yield amount.

• The lease/rent price is then adjusted at the end of the season according to market prices and yields that are above or below the base amounts.

• Higher prices or higher yields raise the lease/rent price, while lower prices or lower yields reduce the lease/rent price.

• A minimum and maximum cap will usually be set on the lease/rent price to protect both parties in case of extreme seasons.

• Some farming areas set leases/rents based on a percentage of gross revenue, which is influenced by both price and yield.

➢ Leasing/renting involves certain rights and liabilities for both the landlord and the tenant.

  o Laws vary from tribe to tribe, and from state to state, so be sure to consult with a legal expert to understand your rights and liabilities in any lease/rental agreement.

  o A written agreement, called a contract, is an essential part of the lease/rental arrangement.

    ▪ It states in writing the terms of the agreement, and the rights and liabilities of the parties involved.

    ▪ In the simplest case, it says that the landlord gives access to land to a tenant, in exchange for a tenant making cash payment to the landlord.

    • Additional conditions will often apply to the contract, including how the land can be used, how and when payments will be made, and what can happen if someone fails to fulfill his/her obligations.

    ▪ Contracts are also important because they encourage the parties to talk and reach a mutual understanding before an agreement is made.

    ▪ If there is a dispute or misunderstanding, the contract’s terms can be reviewed and then enforced.

    ▪ In some states, oral agreements are considered valid, but they do not have the same power and clarity as a written contract. Even if a verbal agreement is made, a contract should still be written.
If someone fails to fulfill his/her obligations, then negligence has occurred and the injured party may hold the other party liable in court and force it to pay damages.

Even though securing a written contract is critical, the most important factor in deciding to enter into a lease/rental agreement is the trustworthiness and reputation of the other party. In other words, can you trust that person’s words and deeds?

There are many reasons why an agribusiness would want to purchase or sell land.

Strictly speaking from a business perspective, buying or selling land should be a financial decision that is based on the needs of the agribusiness, the land’s productivity, its market value, interest rates and cash flow considerations.

- Once the business need had been established, the simplest math looks to see if a buyer has enough money for a down payment and enough cash flow to make regular payments. Many of these considerations are similar to the ones needed in a buy vs. rent land decision.

- However, land holds other non-financial characteristics and values for people, including cultural and family connections, environmental interests, and emotional and spiritual ties. These values are important to consider in any decision to buy or sell land.

- Whole farm planning (discussed in Lesson 5-2: Knowing Your Land) includes all family members in the decision-making process, and they may have differing views of the land that should be taken into consideration before buying or selling land.

- Finally, if the land under consideration is Indian Trust Land, then there is a set of administrative and regulatory issues that need to be taken into account, such as appraising the value of the land, applying for the sale of land and retaining mineral rights.

When land values are high (a “seller’s market”) and the saleable agricultural land base is shrinking (for example, because of development or farm policies), buying land can be a difficult challenge. Despite the challenges, there are still many good opportunities on the market.

- Assuming that you have made the financial analysis, weighed all the criteria, and made the decision to purchase land, the first step is usually to secure credit.
The way in which you secure credit and the type of credit needed will depend on many factors, including the land’s purchase price, the financing agreements with the owner (discussed below), any co-signers you may have and collateral.

At this stage, it is best to develop a number of credit options and, when appropriate, get pre-approval from lenders. This places you in a better bargaining position when negotiating a purchase.

If you are unable to secure credit through a traditional lender, USDA’s Farm Service Agency has several options for farmers and ranchers (see Lesson 2-5: Preparing for Credit and Assistance Applications for details).

The next step is to find land.

If you are lucky, you have already found property within your area through local contacts, or have time to wait for a property to go on the local market. Knowing the local area well, you already know the land’s characteristics including its productivity and market value.

For many beginning farmers and ranchers, finding land to purchase is much more work. Good farmland at a reasonable price is hard to find, and the location and characteristics of properties that are on the market are often unfamiliar to the buyer.

• Doing your homework is critical in assessing any land for sale. This includes evaluating the land for its agricultural productivity, the fairness of its sale price, any restrictions to its rights (for example, water rights) or title, or any easements.

• Fortunately, there are organizations that provide referral or “match-making” services between prospective buyers and sellers of farmland.

• In any case, you should consult with trusted advisors who are familiar and skilled in land transactions in your area.

The next step is deciding how the land purchase agreement is to be structured. There are several common ways that land can be purchased.

• Lease-to-own is an attractive option when the buyer does not have the required down payment. There are two common types of lease-to-own agreements:
• Lease with purchase option: the owner and tenant agree to a purchase price and a future date when the purchase will be executed. The tenant pays for this option, and then rent can be applied to a down payment.

• Lease with “right of first refusal”: the owner and tenant agree that the owner cannot sell the land to a third party without the tenant having an opportunity to match the third party offer and buy the land. This protects the tenant from having the land sold without a chance to purchase it, but it also means that the tenant has to have the capability to buy it.

• “Fee Title Purchase with Seller Financing” is another common type of agreement, where the owner finances the purchase and the buyer makes payments directly to the owner. This works well when there is a good relationship between the seller and buyer, and it is especially useful when transferring land between family members. Payments and collateral can be structured by the wishes of the parties, and brokerage fees can be avoided.

• “Fee Title Purchase with Agricultural Conservation Easement” is an agreement when the land owner wants to preserve the land as farmland, and so “donates” or “sells” the development rights to a non-profit or government agency that holds the rights and enforces the easement. This lowers the value of the land, which can make it more affordable to a beginning farmer or rancher looking to purchase land.

• A traditional agricultural mortgage is similar to a traditional home mortgage, but is tailored for farm and rural properties. Agricultural mortgages may offer different options that include more flexible loan terms, loans that are transferable within the family, or repayment options that follow the seasonal cycles of the agribusiness.

  o Executing a contract or note is the final step.

  ▪ Once both parties have agreed to the terms of the purchase, a contract is written and signed. The contract is considered executed when all terms are fulfilled.

  ▪ This is different from the actual transfer of ownership (through a title or deed) which, depending on how the purchase agreement has been structured, can take place soon after the contract is executed, or at some point in the future (for example, if the seller is financing, transfer of ownership will take place when the purchase price is paid in full).

  ▪ Contracts may contain contingencies that protect parties against various situations that would cause someone to withdraw from the contract.
In every case, a contract should be reviewed by a legal and/or real estate expert to make sure that each party's interests are protected.

- If land values are low (a "buyer's market"), and more agricultural land is on the market, selling land at a good price can be a challenge.
  - The process of setting a good sale price is similar to determining a good buying price discussed earlier. A sale price should ultimately be based on the land's market value plus any mark-ups or premiums that you feel are appropriate. It helps if you can be patient and wait for a buyer who can meet or come close to your asking price.
  - However, the sale price is often not the only factor in selling land. Assuming that you have made the decision to sell your land based on all the various considerations described earlier, an added thought is how you want the land to be used.

- Many farm and ranch owners who have spent their lives establishing the farm or ranch want to keep the land in production agriculture. There are several strategies for preserving farmland.
  - First, as mentioned earlier, an owner can donate or sell their land as a conservation easement to protect the land from development.
  - Second, land linking programs and services can connect sellers with buyers who are interested in maintaining farming or ranching operations on the land.
  - Various farmland protection programs administered by the federal government, states, and municipalities may be available.
  - For example, the USDA NRCS Farm and Ranch Lands Protection Program is a cost-share program that helps with the purchase of development rights on farmland. Landowners apply with a sponsoring entity, which can be a state municipality or land conservation group.

- Don't forget about the tax implications of your sale. Tax liabilities can be significant if land values have risen substantially over the years. You can also reduce your tax liabilities if you donated or sold land as a conservation easement.

  - Finding a suitable buyer will depend on market conditions in the local area, the attractiveness of the property, the sale price, how the property is advertised, the flexibility of financing and other factors.
Land linking referral programs and services may be helpful in finding a suitable buyer, as discussed earlier.

Farm and ranch land brokers may be able to provide a network of potential buyers. Be aware that many of these listing networks are nationwide, so if you are not comfortable with “outsiders” or “city folk” buying your land, some brokers may not be a good fit for you.

Spreading the word through local and state agricultural networks may be helpful. For example, a Cattlemen’s Association or a Grain Growers Association might be good networks.

Once you’ve found a good buyer, then the next steps generally follow the flow described earlier: structuring an appropriate purchase agreement, and then writing and executing a contract.

Remember, as stated before: be sure to have experts in legal matters and/or real estate transactions review your plans.

Inheriting land can be a planned transaction (hopefully) or an unplanned event.

There may be serious considerations related to land inheritance such as estate taxes, wills and trusts, and outstanding liens and debts.

For example, there have been unfortunate cases around the country where the beneficiaries of an unplanned land inheritance have had to sell some or all the family land in order to pay the estate tax.

It’s important to remember that land is not the only asset subject to estate taxes – all farm and personal assets may be taxable.

In tribal settings, inheritance matters will probably differ from non-tribal jurisdictions, and they could also change from tribe to tribe.

Estate planning is a critical step in making land inheritance transactions as efficient as possible, with limited financial consequences to the beneficiaries.

A typical strategy involves gradually transferring assets to family members through annual gifts that fall within the tax exemption limit.

Having a will in place is also an important step in estate planning. A will is a legal document that tells a court how your assets should be distributed upon your death. Having a will in place greatly simplifies the probate process (validating the will and distributing assets).

Other strategies for managing assets include establishing trusts, joint ownership of assets, and using certain types of life insurance policies.
Land owners and potential beneficiaries should work with a trusted professional estate advisor to help with their estate planning. This is definitely not a “do it yourself” job.

Case Study: George and Gladys, the Boys, and the Land Across the Road.

George and Gladys’ farming operation in Montana had been in the family for generations. They own about 3,000 acres of farmland, which is mostly in winter wheat. They typically break just about even each year, but with wheat prices up, they have been doing better recently. Their sons, Josh and Brian, and their wives, want to start their own operations and have been looking for land. They currently live with George and Gladys and they all work on the farm together.

The farmer across the road, Frank, is getting ready to retire and recently decided to sell about 800 acres of his land. The land is good for wheat farming, and is next to George and Gladys’ land. It would make for a good start for the boys’ farming operation. Frank has been a good neighbor and has known George and his family for many years. He has offered to give George and Gladys the first opportunity to buy the land, and the price he is asking for is fair.

The idea of buying land for the boys has been mentioned a few times, but no one has done any serious planning. The offer to buy the land from Frank has taken everyone by surprise. Josh and Brian don’t have the assets or credit to even come close to making the purchase. George, Gladys, and the boys and their wives all sit down at the dinner table one evening to talk about buying the land.

George wonders aloud if their operation has the cash flow and credit to afford to purchase the land. Gladys asks if things are moving too fast, and if leasing land might be a better option, especially if wheat prices fall. Josh is talking about what types of purchase agreements would allow him and Brian to build equity and eventually own the land. Brian asks George and Gladys what their succession plans are when they retire and if they’ve thought about transferring some of the farm assets to the boys now. There are times where it seems like everyone is talking at once, and nothing is being solved.

Discussion questions:

What do you think should be the major considerations for George and Gladys in making a decision to purchase the land?

What do you think are some purchase options for the boys to eventually own the land?

What kind of estate planning should George and Gladys consider?

**Learning Outcome:** Students will gain basic knowledge of water rights, mineral rights, and easements and rights of ways.

- Owning land involves various “rights” that are associated with the land. Perhaps the most important of these rights for farming and ranching operations is water rights.
  - Not only is access to water critically important for farming and ranching operations, it affects the market value of the land.
  - Laws that protect water rights are complicated and can and do change over time. So, you must always keep an eye toward the future when thinking about water rights. Water rights can be a moving target.
    - Special rules and permitting may be in effect (or may be enacted) in areas where surface or groundwater is scarce or water quality is an issue.
    - Tribal lands are subject to federal water claims, which may compete with state and other jurisdictional water claims.
    - Rulings under the Endangered Species Act may affect water rights.
  - Competing interests can make water rights a very heated and confrontational issue. The best way to understand and protect your water rights is to consult with a legal expert.

- Water laws in the Western U.S. generally follow the prior appropriation doctrine.
  - The prior appropriation doctrine says that no one can own the water in a stream, but everyone has a right to it for beneficial use. Thus, strictly speaking, water rights are not connected to land ownership.
  - Water is allocated from its first use from the source and that person is called the “senior appropriator,” who has the first priority permit for water use. The general rule is “first in time, first in line.” “Junior appropriators” are not of those people with water rights established after the senior appropriator.
  - Each state has its own system for water administration. For example, in Montana, water rights are administered by the Department of Natural
Resources and Conservation’s Water Right Bureau. The bureau is responsible for administering the Montana Water Use Act, which manages the acquiring of new water rights and the changing of existing water rights.

- Some areas, called “basin closures,” have been closed to new appropriations because they have been highly appropriated. Other areas have been designated as “Controlled Ground Water Areas,” where water supply and/or quality have become issues.

- Native American water rights are determined by a set of principles called Winters rights (named after the precedent-setting case Winters v. United States). They specify that Congress has the right to reserve water for federal lands, including Indian reservations, and when Congress establishes a reservation, it is implied that the reservation has the right to water sources within or bordering the reservation.
  - Additionally, water rights on the reservation are reserved as of the date of the reservation’s creation. Water users with earlier appropriation dates take precedence, but those with later dates are subordinate to the reservation’s water rights.
  - Finally, the amount of water reserved for Indian use is the amount necessary to irrigate all the irrigable land on the reservation. Rights to water are not lost through non-use of the water, and all of these rights apply both to surface water and to groundwater.
  - Special implementations or compacts may exist in some states. For example, in Montana, a special commission, the Reserved Water Rights Compact Commission, represents the state in negotiating compacts with Montana’s Indian tribes regarding the settlement water rights claims.
  - You should consult with your tribal natural resources department for specific questions about water rights within the reservation’s boundaries.

- Mineral rights is another important right associated with land. It is the right to mine or use any of the minerals below the surface of the property. It is important to note that mineral rights are sometimes separated from the ownership of the surface estate.
  - Although mineral rights do not directly affect farming and ranching operations in the way that water rights do, they can have a big effect on the value of the land and its potential use.
  - Mineral rights can be purchased, sold and leased.
    - Be sure you know about the mineral rights of land that you are considering buying. You may be surprised to find that someone other than the seller owns the mineral rights.
• For example, most Montanans actually live on “split estates” where one person owns the surface estate while another person owns the mineral rights.

• Farmers and ranchers who own the surface estate can often be in conflict with mining interests who own the mineral rights and might conduct mining operations on the land without permission or even advance notice.

  ▪ For Indian lands, a Bureau of Indian Affairs (BIA) land sale application may not include an option for the seller to retain the mineral rights. If you want to retain your mineral rights, be sure to do so, even if it’s not mentioned in the application.

  ▪ If you are not sure whether you want to retain your mineral rights, hire a geologist to survey the land and advise you regarding the potential value of the rights.

  ▪ In some parts of the country, oil and gas exploration has dramatically affected the value of mineral rights and surface land. In some cases, oil and gas companies are offering land owners what seems like extravagant prices for their land and mineral rights.

    • Be careful about accepting these offers without first consulting with a financial advisor and legal experts. You may find that the prices being offered are actually much lower than the expected return in oil or gas royalties.

➤ An easement is the right to use another person’s property for a specific purpose. It can be specific to a part of the property or be generally applied to the entire property. Easements can be bought and sold.

  o There are many types of easements and some may affect the value of a property.

    ▪ For example, an easement may give a power or pipeline company a right to build power or pipe lines across a property, which may lower its value.

    ▪ As discussed earlier, donating or selling a conservation easement (the right to development) can also lower the value of the land, but it is usually used as a strategy to preserve farmland.

  o An easement can apply to a property, or to an individual or a business.

    ▪ In the case of a property, the easement becomes part of the deed and is transferred when sold.
- With individuals or businesses, the easement remains in effect until an expiration date or event or death of the beneficiary.
  - Just because an easement is not currently being used, does not mean that it will not be in the future. Be aware of the potential for an easement to be used and what that will mean to your land and agribusiness.

- A right of way is a special type of easement that gives someone the right to travel through a property owned by someone else.
  - As with all easements, right of ways can affect the value of the land and, for that portion of the property, its agricultural use. You should carefully study the current and potential future use of any rights of ways on your property.
  - Rights of ways are typically applied, and granted, for access roads (or trails) that must cross through private (or state) property to reach some desired destination.
  - In some cases, the use of eminent domain by states or municipalities to acquire rights of way across private property has been exercised, and can be extremely controversial.
    - However, the use of eminent domain is not available on Indian Trust lands (except in rare instances and through a Federal court), and so negotiations and settlements must be made with tribes and individuals holding an interest in the trust land.
    - Tribal governments have the right to consent to rights of ways when deemed necessary for the public good.

**References**

Iowa State University Outreach and Extension. nd. Whole Farm Decisions & Succession. *Ag Decision Maker.*

