



## **Arizona Department of Revenue**

**Property Tax Division**

# **Agricultural Property Manual**



**AGRICULTURAL PROPERTY MANUAL**

Issued: **January 1, 2004**

**FOREWORD**

In Arizona, qualified agriculturally used land is identified, classified, valued and assessed for property tax purposes in accordance with specified procedures. The Department's Property Tax Division has produced this Agricultural Property Manual to provide all assessment personnel and other interested entities with current information and the general procedures to be used for identifying, classifying and valuing agriculturally used land. A.R.S. Title 42 (Taxation), Chapter 12 (Property Classification), Article 4 (Agricultural Property Classification) and A.R.S. Title 42, Chapter 13 (Valuation of Locally Assessed Property), Article 3 (Valuation of Agricultural Property) will be referenced in the discussions throughout this manual.

Several major changes regarding the appraisal and assessment of agriculturally used property were adopted by the Legislature in 1989. Those changes established the current statutory criteria and the procedures for the identification, classification, and valuation of qualified agriculturally used land. All relevant legislation that has been adopted in the legislative sessions since 1989, up to the effective publishing date of this revision, is included in this manual.

This Agricultural Property Manual is effective as of January 1, 2004 for use in the 2005 and subsequent tax years. It supercedes all previous agricultural manuals and agricultural land classification and valuation directives or guidelines which have been issued by the Department of Revenue that may conflict with this manual. It will remain in effect until it is revised, reissued, or is replaced by another publication.

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Department of Revenue  
Property Tax Division

**AGRICULTURAL PROPERTY MANUAL**

Chapter 1  
**General Concepts and  
Definitions**  
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CHAPTER 1

**GENERAL CONCEPTS  
AND  
DEFINITIONS**



## GENERAL CONCEPTS

This manual contains information regarding the identification, classification and valuation of qualified agriculturally used land only. For information on general land valuation issues refer to the Department's current Land Manual and Assessment Procedures Manual.

Arizona Revised Statutes list all of the various legal classifications created for property taxation purposes. Property is classified according to the current use (and in certain limited instances, the intended use) of that property by its owner. Legal Class Two includes all property used for agricultural purposes. Pursuant to A.R.S. § 42-12002, land, buildings and other structures that are used for agricultural purposes are included in Legal Class Two, Subclass One(R)(a) or (b). Personal property used for agricultural purposes is included in Legal Class Two, Subclass Two(P)(a) or (b). Land that is being used for a "qualifying" agricultural purpose is valued using a statutory income capitalization valuation procedure (the capitalization of net land rental income). A.R.S. §§ 42-12151 through 42-12159 contain the statutory criteria for the identification and classification of qualified agriculturally used properties. Those criteria are based primarily on the land being currently used for one of several specifically defined agricultural purposes.

**Ownership.** Land being owned or leased by an agricultural operation is not the sole criteria for classifying that land as being used for a qualifying agricultural purpose and the application of the statutory income capitalization valuation procedure. Ownership by (or leasing land to) a person engaged in agricultural activities is not, by itself, a reason to presume that the land is being used for a defined "qualifying" agricultural purpose.

The reason for classifying an agricultural property as having a "qualified" use is to identify that land which can be valued using the statutory income capitalization valuation procedure. The classification and valuation of qualified agriculturally used property is **not** based on who holds title to it, but on how the land is being used by the owner.



In the case of an agricultural property that is being leased to another entity, contractual agreement(s) must also be given consideration in determining qualifying current use and in assigning the appropriate legal classification to the property.

A.R.S. § 42-13101 contains the statutory criteria for the prescribed income capitalization valuation procedure for qualified agriculturally used land. This procedure is described in detail in Chapter 4. Improvements (other than certain types of improvements to the land, whose values are included in the land value) are to be valued according to all applicable standard appraisal methods and techniques, but primarily they will be valued by utilizing the cost approach. Refer to the Department's current Construction Cost Manual or contact the local County Assessor for current improvement valuation information. For information regarding agriculturally used business personal property valuation, refer to the current issue of the Department's Personal Property Manual or contact the local County Assessor.

## **DEFINITIONS**

There are several terms and phrases used in this manual, and in applicable statutes, that need to be explained or defined. Note that some of the terminology found in this manual has been adopted from other A.R.S. titles and is utilized for property tax valuation and assessment purposes. Be aware that the terminology found in other titles regarding similar agricultural subjects may differ somewhat from the terminology that has been adopted for property tax assessment purposes. Below, and on the following pages, several terms and their definitions that are utilized for qualified agriculturally used land (and related real and personal property) identification, classification, valuation and assessment are provided.

**Active Production:** The exhibition of physical preparation activities and ongoing labor practices which will yield an agricultural crop or commodity. Pursuant to A.R.S. § 42-12152(A)(1), the land should be in active production for seven of the last ten years.



**Acts of God:** An occurrence or a disaster due entirely to forces of nature that could not reasonably have been prevented. A severe flood or drought, an insect infestation, a wildfire, or some other similar natural occurrence may be considered an "act of God," and any one of them can be a valid reason for a property being inactive for "not more than twelve months." A.R.S. § 42-12152(A)(1)(a).

**Agricultural Operation:** All of the land, buildings and structures, and personal property that are generally used for farming, ranching or a high-density use in producing an agricultural crop or commodity.

**Agricultural Status:** Qualifying land that has been granted qualified agricultural use classification status, and which is valued using only the statutory income capitalization valuation procedure. Agricultural land is classified as Legal Class Two, Subclass 2(R)(a) or (b) and is assessed at a sixteen percent assessment ratio.

**Note:** The term "agricultural status" is not statutory language, but it is in common usage and is considered to be synonymous with "qualified" agricultural use classification.

**Agricultural Use Land Value:** The land value that is derived by following the procedure outlined in A.R.S. § 42-13101, which establishes that qualified agricultural land is to be valued using only the statutory income capitalization valuation procedure. The income value estimate is arrived at by:

- Calculating the average of the annual net cash rentals of comparable qualifying land from the five-year period prior to the current valuation year.
- Capitalizing that average net cash rental amount by a rate which is one and one-half percentage points higher than the average effective interest rate for all new Farm Credit Services Southwest loans for the five-year period prior to the current valuation year for which the land valuation is being determined.



**Animal Unit:** Pursuant to A.R.S. § 37-285(I)(1), "animal unit" means:

- One weaned beef animal over six months of age.
- One horse.
- Five goats or five sheep, or the equivalent.

For weaned beef animals (i.e., cattle or buffalo) over six months of age, but which weigh less than 1,000 pounds, the animal unit equivalent may be computed by using the ratio of average animal weight to 1,000 pounds. For example, a weaned calf weighing 600 pounds equals 0.6 (i.e., 6 tenths, or 60 percent) of one animal unit. Those equivalents may vary greatly, depending on the type and maturity of the grazing animals, the amount, type and quality of forage available for grazing, the techniques of managing grazing land that are used, and the availability of water for livestock.

**Note:** Animal unit equivalency for all animals is based on the formula of the number of mature animals necessary to equal one mature cow of approximately 1,000 pounds. For example, as noted above the equivalency for sheep is approximately five adult 200-pound animals equals one 1,000-pound cow.

Depending on range conditions, some types of livestock (such as yearling cattle or sheep) may be grazed in greater or lesser numbers per unit of grazing area than those equivalent examples may indicate. When these conditions cause uncertainty about animal unit equivalency determinations in specific cases, expert advice should be obtained. Additional information and useful data about the types, quantity and quality of forage may be obtained from a range survey. Range surveys are performed by professional range managers who are employed by agencies such as the Bureau of Land Management (BLM), which is a part of the U.S. Department of the Interior, or the U.S. Forest Service (USFS), which is a part of the U.S. Department of Agriculture.

**Animal Unit Month (AUM):** One animal unit grazing for one month. A.R.S. § 37-285(I)(2).

**Buildings and Structures:** All structural improvements in an agricultural operation, including improvements such as the owner's residence(s), barns, milking parlors, haysheds, worker housing, or agricultural yard improvements. See Chapter 4, Valuation.



**Capitalization Rate for Agricultural Land:** The statutory agricultural capitalization rate converts agricultural land rental income into an indication of land value. It is one and one-half percentage points higher than the average long-term annual effective interest rate for all new Farm Credit Services Southwest loans for the five-year period prior to the year for which the valuation is being determined. A.R.S. § 42-13101(B)(2).

**Note:** The statutory agricultural capitalization rate is unrelated to a standard income approach or "market" capitalization rate, and it does not produce a "market value." The value generated is an agricultural use value. It is the capitalized value of the income derived from leasing agricultural land (the net rental income received by the land owner) and it is utilized for property tax assessment purposes only.

**Carrying Capacity:** This term refers to the ability of grazing land to provide adequate forage to sustain a specified number of livestock for a given time period, without the livestock causing undue damage to the plants or soil in the area being grazed. For the purposes of this manual, carrying capacity is expressed in terms of animal units per section of grazing land per year. See Appendix A.

**Contiguous:** Contiguous land parcels share a common boundary. However, in an agricultural operation, parcels that are not contiguous (having no common boundaries) may still be a part of the economic unit of the agricultural operation because of their functional contribution to the entire agricultural operation.

**Crop (Permanent):** The vines, trees or plants themselves. Their value is not included in the land value or the value of that season's harvest. They are considered to be improvements on the land, and their valuation is based on an estimate of their long-term average production capacity. See Appendix C.

**Crop (Seasonal):** The harvest or yield of a single field, or of a single variety gathered in one season or part of a season. A harvested crop's value is determined through the particular commodity market (usually, the local "spot market") for the crop type grown.

**Note:** While the term "crop" can be applied to livestock, in general practice, and for the purposes of this manual, this term is applied only to the harvests derived from plants, vines and trees.



**Economic Unit:** Both contiguous and noncontiguous parcels that are used collectively for one economic purpose. In the case of an agricultural operation, the parcels may also have different or multiple ownerships.

**Expenses (Allowable Owner's Expenses):** Any costs, not paid by the lessee, directly related to the production of rental income from the land. These costs can include management, maintenance and repairs, utilities, materials and supplies, insurance, and property and sales taxes. However, these costs do not include interest, income taxes, capital improvements or any other expenses that are not a part of income production. See Chapter 4, Valuation.

**Fallow Land:** Land that is capable of being farmed, but which is purposely left idle due to the lack (or the cost) of water, prudent farm management practices, or to other relevant factors. It is valued in the same manner as irrigated, currently utilized cropland.

**Note:** Because agricultural land is required be in production for seven out of the last ten years (i.e., calendar years), pursuant to A.R.S. § 42-12152(A)(1), the County Assessor should reconsider maintaining agricultural classification status on any parcels lying fallow for more than three years.

**Farm Property:** An agricultural operation consisting predominantly of cropland. Generally, such acreage is irrigated land.

**Full Cash Value:** Full cash value, for land that is classified as having a "qualified" agricultural use, is its agricultural use value resulting from the application of the statutory income capitalization valuation procedure for agricultural land as prescribed in A.R.S. § 42-13101. An agricultural use value for land is determined by using only the statutory income capitalization valuation procedure, without any allowance for urban or market influences. For any land that is not classified as "qualified" agricultural land, full cash value is synonymous with the market value of that land, meaning the value determined by the use of all applicable standard appraisal methods and techniques. See the Department's current Land Manual and Assessment Procedures Manual for general information regarding those subjects.



**Functional Contribution:** A positive economic benefit derived from the agricultural use of an individual parcel of land that is incorporated into an agricultural operation. Parcels in the agricultural operation do not need to be contiguous, nor do they require having the same ownership (i.e., some or all parcels may be leased from one or more owners).

For example, an agricultural operation may have crops on one or more parcels of farmland, while the equipment storage area and headquarters for the operation are located on a noncontiguous parcel. However, each parcel in the economic unit, whether contiguous or not, must make a functional contribution to the agricultural productivity of the total agricultural operation through common management, combined production, or by simply facilitating the movement of laborers, machinery, materials, equipment or agricultural commodities from one parcel to another within the operation.

**Generally Accepted Agricultural Practices:** Those activities and practices that are used in an agricultural operation which are widely accepted and that can be supported by experts in particular agricultural disciplines.

**Grazing Land (Irrigated Pasture):** Land which is irrigated to produce a crop (generally hay) sufficient to support livestock without supplemental feeding. Pasture grazing land is valued in accordance with any cropland in the same district or productivity zone.

**Note:** If intense supplemental feeding becomes necessary to maintain the livestock, the Assessor may determine that a high-density land use valuation is warranted.

**Grazing Land (Natural):** Land of a sufficient size to support a minimum of forty animal units by means of naturally occurring vegetation only (without supplemental feeding). Water for the livestock is provided by natural water supply, stock tank, well or water truck rather than irrigation.

**Gross Acres:** The total number of acres in an agricultural operation, including all land that is used for cultivation, all pasture or grazing land, plus any land used for equipment storage, homesites, ditches, access roads or wasteland.



**Headquarters Land:** The land in the agricultural operation used for equipment storage and general farm or ranch improvements, such as barns, sheds, corrals, seasonal or full-time employee housing, or similar types of improvements. See Chapter 4, Valuation.

**High-density Use.** High-density agricultural use is defined as the intensive use of a relatively small area of land for the production of a high-yield crop or commodity, wherein comparatively large amounts of labor and capital are required per unit of land.

**Homesite Acreage:** Land that is used for the residence of the owner's family and any associated residential structures on an agricultural property. The homesite is usually limited to one acre, unless actual occupancy indicates that more acreage is used for supporting residential purposes. The homesite portion of the acreage is valued using the market sales comparison approach rather than using the statutory income capitalization valuation procedure for agricultural land. See Chapter 4, Valuation.

**Improvements to Privately-Owned Agricultural Land:** Those basic and essential improvements to the land that the farming or ranching process is inherently dependent on (i.e., without these improvements the land could not be farmed, ranched, etc.). They are valued as an integral part of the land.. Generally, these items are not valued separately. They are combined with the land to make it valuable for its current use, so their value is reflected in the land value. See A.R.S. § 42-15062. Examples include:

1. Irrigation ditches and pipelines that carry water to the point of delivery to the crop.  
**Note:** The control system and all portions of the delivery system are taxable as personal property.
2. Service roads.
3. Wells, pumps and motors when used for agricultural purposes.
4. Earthen stock water tanks.
5. Man-made natural water catchment basins.
6. Boundary fences constructed of common wire and posts.

**Note:** Wood, chain-link, pipe, cable, and fences of other materials, as well as special-purpose fences, are generally considered to be improvements and added to the value of the land.



**Improvements on Possessory Rights (IPRs):** Improvements that are located on unpatented (nondeeded) land and mining claims, and on federal and state leased land. See Chapter 4, Valuation.

**Irrigated Land:** Land that has been cleared, leveled and ditched for the artificial application of water (as opposed to relying on natural precipitation), and which is used, or that is prepared, for growing plants. See Gross Acres.

**Note:** Typically, irrigation will be used for row crops, orchards or vineyards, and pastureland. Practically all commercial crops in Arizona are produced on irrigated land. The primary factors which determine the need for the use of irrigation are climate, soil and topography, and the water requirements of the particular type of crops to be grown. Irrigation systems can range from simple dirt or concrete-lined ditches (their value is included as a part of the land) to large, mechanized water delivery systems, such as pivot sprinkler systems (which are valued as personal property). This category of agriculturally used land includes all related roads, ditches, wellsites, ponds, turn and skip rows, as well as the actual crop producing acreage.

**Lease:** A written document (i.e., a contract) in which the rights to the use and occupancy of real or personal property are transferred by the owner to another for a specified period of time in return for a specified amount of monetary rent.

**Livestock:** All animals that are used as (or which are the sources of) agricultural commodities. Included are cattle (beef or dairy), buffalo, equines (all horses, mules, burros and asses), sheep, goats, swine (excluding feral pigs), poultry (which includes "ratites") and any aquatic or fur-bearing animals that are raised in a controlled environment (which is a "high-density" land use).

**Note:** The term "livestock" does not include any wildlife existing on the land. "Wildlife" is defined under A.R.S. § 17-101(A)(22) and (B). Wildlife that is found within this state, both resident and migratory, are legally considered to be owned by the State of Arizona, pursuant to A.R.S. § 17-102, and are managed by the Arizona Department of Game and Fish.



**Net Cash Rental:** The net amount of money (net income) that has been received by an owner after all allowable expenses are subtracted from the gross proceeds that have been received from the rental of the owner's land.

**Noncontiguous Parcels:** Parcels which are not adjoining (not sharing a common boundary) or that are not connected by other parcels in the same agricultural operation. See Functional Contribution.

**Nonconforming Agriculturally Used Property:** An agriculturally used property which does not meet the minimum number of acres, the minimum number of animal units on the land, or the minimum time in use requirements of A.R.S. § 42-12152, but which, at the discretion of the local County Assessor, acting under the authority of A.R.S. § 42-12154, has been granted qualified agricultural use classification.

**Nonqualifying Property:** Land uses that do not qualify for valuation using the statutory income capitalization valuation procedure. These include uses such as land that is vacant (undeveloped); land used for residential purposes (other than land with structures used by seasonal or full-time agricultural employees); land used for any commercial purposes; or land that is primarily used for recreational purposes. This category also includes any agriculturally used land that was denied "qualified" agricultural classification status by the County Assessor. Nonqualifying property is to be classified and valued according to its primary current use, using all applicable standard appraisal methods and techniques.

**Personal Property:** All types of tangible and intangible property that are not included in the term "real estate," pursuant to A.R.S. § 42-11001(8). See Chapter 4, Valuation.

**Productivity Zones:** Specifically identified areas in a county or a region in which agriculturally used properties have similar characteristics, such as: soil type; salinity; topography; percolation and drainage; vegetative composition and productivity; natural precipitation patterns; irrigation system requirements; water cost, quality and current availability; and those which use similar agricultural practices for similar crops or for the type of livestock being raised.



**Qualified Agricultural Land:** Land that is valued by using the statutory income capitalization valuation procedure rather than by the market sales comparison approach. Qualification is based on the confirmation of the property having an agricultural use as specified under A.R.S. § 42-12151, on the receipt of the mandatory Agricultural Land Use Application and Statement of Agricultural Land Lease forms, as applicable, and approval by the Assessor of the county in which the land is located.

**Ranch Property:** An agricultural operation consisting primarily of natural grazing land. Qualified grazing land must have a minimum carrying capacity of forty animal units and must have "an economically feasible number of animal units" on the land, pursuant to A.R.S. § 42-12151(3).

**Undeveloped Land:** Natural, or raw, vacant land that is not being used as a part of an agricultural operation's acreage and which does not meet the criteria for classification as wasteland on a farm. It should be classified as vacant land. See Chapter 4, Valuation.

**Urban or Market Influence:** Urban or market influence occurs when the market value of the land for a nonagricultural use would exceed the agricultural use value of the land if it were sold purely for agricultural use. The market value for agricultural land **not** affected by an urban or market influence recognizes that the agricultural use is producing the highest net income. Urban or market influences recognize that the most valuable use of the land may be something other than an agricultural use (i.e., residential or commercial).

**Wasteland:** Land in a farming operation that cannot be converted into economically beneficial cropland. Wasteland includes areas such as riverbottoms, sand hills, rock outcroppings, sandy washes and areas of high soil salinity, along with land that lacks utility due to inaccessibility. Wasteland is included in gross acreage. See Chapter 4, Valuation.



Department of Revenue  
Property Tax Division

AGRICULTURAL PROPERTY MANUAL

Chapter 2  
**Qualification Requirements  
and Classification Criteria**  
Issued: January 1, 2004

CHAPTER 2

**QUALIFICATION  
REQUIREMENTS  
AND  
CLASSIFICATION CRITERIA**



## **AGRICULTURAL PROPERTY QUALIFICATION**

Qualified agricultural property is real property which meets one or more of the criteria specified in A.R.S. § 42-12151. Agricultural land must currently be in use to produce crops or livestock, or must be devoted to a high-density use in producing commodities, or must be used in the processing of various specified commodities. The land must also meet the following criteria, which are fully specified in A.R.S. § 42-12152:

1. Its primary use is a qualifying agricultural use and the land must have been in active production for at least seven of the past ten years prior to application. An agricultural operation on land which has not been used for agricultural purposes for seven of the past ten years may not qualify, even though its current use is agricultural. Such land may qualify for agricultural use classification status after seven years of active production, if it meets all of the other criteria. Qualified land may have been inactive due to several acceptable reasons pursuant to A.R.S. § 42-12152, or it may be a "nonconforming" property according to A.R.S. § 42-12154. See Exceptions, page 2.9.
2. Any noncontiguous parcels must be managed and operated on a unitary basis along with the rest of the overall agricultural operation, with each parcel making a functional contribution to the whole agricultural operation.
3. There must be a reasonable expectation of the agricultural operation generating an operating profit, exclusive of land cost, from the agricultural use of the property. Some of the considerations for a "reasonable expectation of operating profit" (also called "economic feasibility") as provided in A.R.S. § 42-12152, are listed below:
  - Is the agricultural activity conducted in a businesslike manner?
  - What is the expertise of those involved in the agricultural activity?
  - How much time and effort is being expended in carrying on the agricultural activity?
  - Do those involved have prior success in other similar agricultural activities?
  - What is the history of operating profits or losses for this agricultural activity?



- What amount of operating profit, if any, has been earned?
- Are the agricultural activities engaged in for personal pleasure or recreation, (i.e, is it a hobby farm?).

Questions like these emphasize that the County Assessor must look at all aspects of any agricultural operation for economic feasibility, especially when making the initial determination of whether or not to approve an agricultural classification application and to apply the statutory income capitalization valuation procedure to value the land.

**Property Inspections.** Pursuant to A.R.S. § 42-12158, the County Assessors are required to make an on-site inspection of twenty-five percent of the agricultural land in their county each year, so that all of these properties are visited and appraised within every four years. The inspections may also assist the Assessors by increasing the amount and accuracy of the lease data gathered, and may assist in creating and maintaining good working relationships with the property owners in their jurisdictions.

## **OBTAINING AGRICULTURAL USE CLASSIFICATION**

To obtain qualified agricultural use classification status, the land must have been actively engaged, for seven of the past ten years (with exceptions - see A.R.S. § 42-12154), in the production of agricultural crops or commodities of sufficient quantity to be economically feasible. Also, the use of the land must meet one or more of the statutory requirements specified under A.R.S. § 42-12151:

### **1. Cropland.**

- A. Permanent crops.** These are plants, vines or trees which produce a seasonal or annual crop and that are perennial by nature (rather than row or field crops, which are planted and harvested on a scheduled rotation). Permanent crops must have an aggregate of ten or more gross acres. They usually require several years to reach maturity before the plants or trees begin producing a marketable harvest.



## AGRICULTURAL PROPERTY MANUAL

Examples of permanent crops include fruit trees (such as apples or peaches), citrus trees (such as oranges or grapefruit), nut trees (such as pecans), grapevines, date trees, olives, jojoba shrubs and Christmas trees. Permanent crops are considered to be improvements on the land. See Chapter 4, Valuation and Appendix C.

- B. Seasonal crops.** This category includes the majority of farm parcels in most agricultural operations. Cropland, to qualify for statutory valuation as agricultural land, must consist of at least twenty gross acres. The land is cultivated to produce mainly row or field crops, which are planted and harvested on a scheduled rotation. Crops include those that are harvested once a year (such as cotton), those with a short growing time (such as green onions), or crops where the product is harvested, but the root system remains intact to produce another harvest (such as hay, alfalfa, or asparagus).

### 2. Grazing land.

- A. Irrigated Pasture.** Land used for irrigated pasture that is of sufficient quantity and nourishment to support livestock without supplemental feeding. Irrigated pasture is valued in the same manner as other cropland in the same district or productivity zone. If the pasture cannot support the livestock, and substantial supplemental feeding is required for maintenance, the land should be valued as high-density.
- B. Natural grazing.** For property tax valuation and assessment purposes, grazing land means ranch land that is used primarily for grazing livestock, where large, uncultivated acreage and natural precipitation provide natural forage to livestock. The land must have a minimum carrying capacity of forty animal units and contain an economically feasible number of animal units.

**Note:** The carrying capacity of rangeland cannot be expressed as a fixed number. A quote from the report "Assessment of U.S. Forest Service Methods for Determining Livestock Grazing Capacity on National Forests in Arizona" (2001), states, "Grazing capacity for livestock (or



proper stocking rate) is not an intrinsic biological characteristic of an ecosystem that can be directly measured.

"Grazing capacity is a function of the kind and amount of vegetation produced on the range, topographic characteristics of the landscape, and availability of water resources. The amount of money and time spent on regulating and managing livestock use (e.g., fences, water developments, trails, herding) has major effects on the grazing capacity."

Appendix A, titled "Carrying Capacity of Rangeland in Arizona," contains tables for the average carrying capacity of grazing land for cattle in different townships in Arizona's counties. The tables were created in 1967 by Mr. N. Gene Wright of the Department of Agricultural Economics, at the University of Arizona. Research performed in 2002 verified that the data is still generally valid. However, these tables should **only** be used as a starting point to determine whether or not a property might support the minimum carrying capacity of forty animal units. The tables do not, by themselves, establish economic feasibility and they should not be relied on without an on-site inspection of the land.

### 3. High-density use.

**A. General high-density use.** High-density agricultural use is defined as the intensive use of a relatively small area of land for the production of a high-yield crop or commodity, wherein comparatively large amounts of labor and capital are required per unit of land. There is no minimum acreage requirement for this classification. Structural improvements and personal property frequently make up a substantial part of the overall value. That is, the value of structural improvements, such as cotton gins, greenhouses or packing facilities and the personal property in, or used with them, is often greater than the value of the land on which the improvements are situated.

Examples of high-density agricultural crop land uses include growing:

- Flowers.
- Ornamental plants.
- Rose bushes.



- Trees (other than standing timber). Examples are Christmas trees and landscape trees.
- Intensively produced fruits and vegetables, such as tomatoes grown in hydroponic gardens and greenhouses.

Examples of activities that are engaged in for the purpose of raising and breeding animals, or for producing commodities from them, which require the intensive use of agricultural land include:

- Beekeeping.
- Breeding selective livestock (other than as a part of a ranching operation) such as registered horses or bovines.

**Note:** Land primarily used for boarding or training horses or other animals, or for breeding animals for pet or recreational use, shall be considered to be commercial property, and is classified as Legal Class One. Those areas and improvements used to display the animals (show rings) or which have associated uses (i.e., corrals, pens, barns, exercise areas) will also be classified as commercially used property.

- Raising animals and poultry in a controlled environment for meat production.
- Raising animals and poultry in a controlled environment for milk, milk products or eggs.
- Raising aquatic animals as a product in a controlled environment.
- Raising fur-bearing animals in a controlled environment for fur.

Irrigated acreage or former cropland used for grazing may require high-density valuation if supplemental feeding of the animals is required.



- B. Land and improvements devoted to use in processing cotton necessary for marketing.** Land that is utilized for ginning cotton shall be valued as high-density agricultural land. Cotton ginning equipment and buildings will be considered to be agricultural property. The storage of cotton on the gin site for a period of twenty-one days or less (a normal industry standard) is considered to be an agricultural use, occurring in conjunction with the gin.

Warehousing of the ginned cotton (which is storage for more than twenty-one days, or long-term storage off the gin site) is not an act of processing cotton necessary for marketing. Therefore, land and buildings that are used to warehouse cotton are considered to be commercial property and are classified as Legal Class One. Land and buildings that are used for the further processing of the cotton (or of any by-products, such as seeds) following ginning should also be considered commercial property. This difference in legal classification will result in a mixed-use assessment ratio for the total property.

- C. Land and improvements devoted to use in processing wine grapes for marketing.** For only those grapes that are grown specifically for wine making, processing includes washing, grading, sorting, packing, and the initial extraction of the juice through the bulk fermentation process. Land and improvements that are used for all applicable procedures are to be classified as having a high-density agricultural use. Land and improvements that are used for these purposes are classified as Legal Class Two, Subclass One(R)(b). However, any property that is used for bottling, wine tasting, retail sales, storage or warehousing of the finished products shall be considered to be commercial property and is classified as Legal Class One. This difference in legal classification will result in a mixed-use assessment ratio for the total property.



**D. Land and improvements devoted to use in the processing of citrus for marketing.** A.R.S. § 3-441(3) defines "citrus" as the fruit of any orange, lemon, lime, grapefruit, tangerine, kumquat or other citrus tree which produces edible citrus fruit suitable for human consumption. Processing citrus is considered to be the initial series of operations performed in the treatment of the citrus to enable it to be marketed after harvest. For citrus that is being used solely for juice, the process would include the procedure of converting the solid citrus fruit into bulk juice.

Processing, however, does not include any further treatment after the first sale, such as bottling or any other commercial treatment that may be performed at a distribution center, or for retail sales.

For citrus that is to be used for table fruit, the process would include washing, sorting, grading and packing, but **not** juicing. Land, buildings and equipment that are used for any purpose other than the direct processing of citrus for marketing are considered to be commercial property and are classified as Legal Class One. This includes warehouses, cooling and refrigeration facilities, and loading docks. These differences in legal classification will result in a mixed-use assessment ratio for the total property.

**E. Land and improvements devoted to use as fruit or vegetable commodity packing plants.** A fruit or vegetable commodity packing plant is considered to be the land, buildings, and equipment used in the process of taking fruit or vegetables from the tree or field and placing them in a box or container for sale and shipment to a reseller or an ultimate consumer. Qualifying examples of processing include washing, grading, sorting, wrapping and packing vegetables and fruit, so long as no cutting or other physical alteration of the produce occurs. If there is any cutting or other physical alteration of the fruit or vegetables, the land and improvements used for those purposes may not be classified as agricultural property, but are considered to be Legal Class One property. Physical alteration includes peeling,



chopping, waxing, applying a coating, or any other process that changes the fruit or vegetable from its natural condition as harvested. This difference in legal classification will result in a mixed-use assessment ratio for the total property.

**F. Land and improvements that are owned by a dairy cooperative.** A dairy cooperative includes land and facilities that are devoted to a high-density use in producing, transporting, receiving, processing, storing, marketing and selling milk and manufactured milk products without the presence of any animal units on the land (i.e., this excludes an actual dairy farm operation).

Land that is used for the processing of any agricultural commodities that are not specified in statute is excluded from qualified agricultural status. That land will then be considered to have a commercial use and will be classified as Legal Class One. In all cases where the land, buildings and equipment associated with agriculturally used property incorporates multiple uses, refer to the Arizona Department of Revenue's Assessment Procedures Manual for instruction on determining mixed-use percentages.

## EXCEPTIONS

Pursuant to A.R.S. § 42-12154(A), the local County Assessor has the authority to approve agricultural classification for a "nonconforming" property, which is one that does not have the minimum number of acres or animal units on the land, or one that has not been in active commercial agricultural production for seven of the past ten years. However, the statute provides no specific criteria for making such determinations. Therefore, the local County Assessor must use discretion in determining whether or not any specific or unusual circumstances will justify granting qualified agricultural use classification to any "nonconforming" agriculturally used property. Exceptions to the limitations on agricultural use classification, specified more fully in A.R.S. § 42-12152, include:

- Land that is inactive due to "acts of God" for not more than twelve months.
- Land that is in a scheduled crop rotation plan.



- Land that is subject to complete or partial inactivity due to a restriction of use caused by a temporary reduction in, or transfer of, available water within the agricultural operation.
- Grazing land that is inactive due to "reduced carrying capacity" or generally accepted range management practices.
- Land to which a feedlot or dairy operation has been moved will qualify for agricultural classification if it has been moved from a location where it met the requirement of active production "for at least seven of the last ten years."

In addition, the Assessor may continue agricultural classification of **owner-occupied** land if the owner can prove that a change in classification of the land would cause an extreme hardship to the property owner, or if that land has fewer than the minimum number of animal units as prescribed in A.R.S. § 42-12151(3), but the number of animal units equals, as nearly as is possible, the land's carrying capacity.

### **SPECIAL CONSIDERATIONS**

Sometimes the Assessor must consider granting qualified agricultural status to an agricultural operation that would not normally qualify due to size, etc., but which has a level of production comparable to other, typical operations due to exceptional agricultural practices. These techniques may include planting new or experimental crops, harvesting two or more crops of the same variety per year, or the use of other innovative practices. As an example, an agricultural operation may have one or more parcels of cropland which may total less than the twenty acres required by statute. However, through careful cultivation and growing techniques, the land produces a significantly greater yield per acre in comparison to typical cropland in the area which consists of twenty acres or more. The Assessor must also decide whether the farming practices are more consistent with cropland use or with a high-density use, and determine values accordingly.



## **PROPERTY IN TRANSITION**

Encroaching development alone is not a reason to reclassify agriculturally used land. However, it is a reason to review all agriculturally used properties within those areas that may be affected by any proposed or occurring development, in order to verify that they are still being used for qualifying agricultural purposes.

Certain parcels that have previously been used for agricultural purposes may or may not necessarily qualify for current agricultural use classification. The most evident of the nonqualifying factors is the termination of the agricultural operation. But in many instances, the Assessor must consider other factors to determine whether or not an agricultural property has changed use, including:

- An application for rezoning is pending.
- A subdivision plat has been recorded, especially where land is divided into lots of one acre or less.
- There has been a recent installation of survey stakes or roads for nonagricultural development.
- Utility services have been installed.

Any of the foregoing conditions may result in a failure to continue the agricultural operation despite the availability of adequate water or other relevant factors. These few examples are simply for illustrative purposes, and are not intended to be the only factors that should be considered.

If a transitioning parcel maintains an agricultural use (as defined pursuant to A.R.S. § 42-12151), that parcel may be able to continue to be classified as agriculturally used land. If only a portion of that parcel maintains the agricultural use, and if that portion still meets the statutory requirements, that portion may be classified as agriculturally used land. A mixed-use assessment ratio may result. However, any improvement to, or



development of the land that hinders the flow of water to cropland, or that otherwise disrupts the agricultural operation, should be considered grounds to remove the entire parcel from qualifying agricultural status. Again, the individual, current circumstances concerning each agriculturally used property, or portions of it, must be carefully analyzed by the local County Assessor when determining whether or not to grant, or to continue, agricultural use classification, and therefore, to apply the statutory income capitalization valuation procedure to determine the value of the land.

### **REMOVAL OF AGRICULTURAL CLASSIFICATION**

Land that has previously been, or that is currently classified as a qualifying agriculturally used property can cease to be valued using the statutory income capitalization valuation procedure for one of two general reasons. The first is a change in the property's use, wherein the land is no longer in agricultural production.

Pursuant to A.R.S. § 42-12156, "If all or part of the property ceases to qualify as agricultural property under this article [Article 4, Agricultural Classification], the person who owns the property at the time of change shall notify the Assessor within sixty days after the change." The owner is responsible for notifying the Assessor of the discontinuation of agricultural use on the land. If the property is no longer used for agricultural production, the County Assessor should remove the property from agricultural classification and revalue the land using all applicable standard appraisal methods and techniques.

A.R.S. § 42-12157 states that intentionally giving false information on the application form(s), or a failure to provide the notice required under § 42-12156, will cause the following to occur:

- An immediate reclassification of the land to a nonagricultural use and value.
- The owner will become liable for additional taxes on the difference between the nonagricultural full cash value and the full cash value of the property "...for all of the tax years in which the property was classified based on the false information."



- The owner will also be liable for a twenty-five percent penalty on those additional taxes computed, although the Assessor has the right to abate this penalty for "good cause."

The second general reason for removing qualified agricultural status from a parcel (or parcels) within an agricultural operation is the failure of a new owner to file an application for agricultural use for that parcel (or parcels). This is explained in Chapter 3 under Agricultural Land Use Application. However, pursuant to A.R.S § 42-12153(B), the new owner may appeal the classification regardless of whether or not an application was filed.



Department of Revenue  
Property Tax Division

AGRICULTURAL PROPERTY MANUAL

Chapter 3  
Reporting Requirements,  
Penalties and  
Notification of Taxpayer  
Issued: January 1, 2004

## CHAPTER 3

# REPORTING REQUIREMENTS, PENALTIES AND NOTIFICATION OF TAXPAYER



## TAXPAYER REPORTING REQUIREMENTS

Land cannot be classified by the local County Assessor as having a qualifying agricultural use unless the owner has filed a completed Agricultural Land Use Application form with the County Assessor, and that application has been approved. The nonagricultural full cash value for such land may exceed its agricultural use value when current market conditions and relevant urban or market influences are considered.

Qualified agricultural land use classification and valuation procedures are prescribed in A.R.S. §§ 42-12151 through 42-12158, and in A.R.S. §§ 42-13101 through 42-13102, respectively. After agricultural use classification has been granted, that land classification may be maintained until such time as all or part of the land ceases to qualify as agriculturally used. The owner must notify the Assessor within sixty days of any change in qualification status, pursuant to A.R.S. §§ 42-12156 and 42-12157.

**Agricultural Land Use Application.** To apply for agricultural classification, the owner or the owner's designated agent must obtain an Agricultural Land Use Application (DOR Form 82916) from the County Assessor, complete the form and return it for the Assessor's review. Failure to file the required application will result in the Assessor classifying and valuing the land for property tax purposes as nonagricultural land.

If the ownership of a property with an agricultural classification changes, the new owner or the owner's agent must file a new Agricultural Land Use Application form within sixty days of the sale date in order to maintain the agricultural use status on the land. The valuation can be appealed even if the new owner or owner's agent failed to file an application form. A.R.S. § 42-12153(B). A new application must also be filed on any new or additional parcels to be added to an agricultural operation for which agricultural classification is sought by any owner.



The following information (in addition to parcel identification) is required when filing the Agricultural Land Use Application (DOR Form 82916) pursuant to A.R.S. § 42-12153:

1. The total acreage of each parcel listed on the application.

**Note:** The gross acreage as determined by the Assessor should be listed as the parcel size.

2. The type of crops grown on the land.
3. The type and number of animal units raised on the land.
4. The number of acres leased for agricultural purposes.
5. A verification that the property meets the requirements that are prescribed in A.R.S. § 42-12152 that are necessary to receive agricultural classification.

**Statement of Agricultural Land Lease.** A.R.S. § 42-13102 requires that a Statement of Agricultural Land Lease (DOR Form 82917) must be completed by the owner or lessor and filed with the local County Assessor for each agricultural land lease entered into for a period of more than ninety days. The County Assessor will utilize the information contained in the statement in the valuation process for agricultural land, as prescribed by A.R.S. § 42-13101.

Pursuant to A.R.S. § 42-13102(A), the following information is required on the Statement of Agricultural Land Lease (DOR Form 82917), in addition to any other information prescribed by the Department of Revenue:

1. The name and address of the owner or lessor and tenant or lessee.
2. The complete legal description of the property.

**Note:** The Assessor Parcel Numbers (APN) may be substituted for the full legal description.

3. The situs address, if any, of the property.
4. The cash or cash equivalent of the lease payments.
5. The conditions of the lease, including the relationship, if any, of the parties.
6. The owner or lessor's expenses associated with the leasing of the land, excluding land cost, interest on land cost, income tax depreciation and capital improvements.



Either the Department or the County Assessor may request a copy of the lease or rental agreement and income statement, in addition to the completed form. Pursuant to A.R.S. § 42-13102(C) a new Statement of Agricultural Land Lease is to be filed with the County Assessor covering any change in ownership, lessor or lessee, or terms or conditions of the lease (including the time period covered by the lease).

**Personal Property.** Taxpayers are required to annually report on demand all of the agriculturally used personal property under their control. The report is sent to the local County Assessor in the county where the property is located. Agricultural personal property includes items such as machinery, equipment and unlicensed vehicles. These are reported on the Arizona Agricultural Business Personal Property Statement (DOR Form 82520A), which is also obtained from the County Assessor. For further information concerning the requirements for filing, and for information regarding the valuation of personal property, refer to the current version of the Department's Personal Property Manual or contact the County Assessor's office.

## **PENALTIES**

If an owner fails to file the appropriate form(s), the property cannot be granted agricultural classification by the County Assessor, and must be valued at its nonagricultural full cash value. Pursuant to A.R.S. § 42-12157, if an owner of property, or the owner's designated agent, intentionally provides false information on an application form, or fails to provide the notice required under A.R.S. § 42-12156, the property shall immediately be classified as nonagricultural property and shall be valued at its nonagricultural full cash value. The owner is liable for the additional taxes for all of the tax years in which the property was classified as agricultural property based on the false information, along with a penalty equal to twenty-five per cent of these additional taxes. However, the Assessor may abate this penalty for good cause.



## **NOTIFICATION TO OWNER**

After the owner or the owner's designated agent files an application for agricultural use classification, the local County Assessor shall notify the owner of approval or disapproval of the agricultural classification for those parcels included in the application. If the application for agricultural classification is not approved, the County Assessor shall notify the owner of the reasons for disapproval. Notice of approval or disapproval will be mailed on or before the date on which the Assessor next mails the notice of valuation for the land to the owner. A.R.S. § 42-12155(A).

**Appeal of Assessor's Classification Decision.** If the County Assessor does not grant agricultural classification to the property, the owner or the owner's designated agent may appeal pursuant to A.R.S. § 42-12155. Classification appeals shall be filed pursuant to A.R.S. § 42-15104 and §§ 42-16051 through 42-16056.



Department of Revenue  
Property Tax Division

AGRICULTURAL PROPERTY MANUAL

Chapter 4

**Valuation**

Issued: January 1, 2004

# CHAPTER 4

# **VALUATION**



## VALUATION OF AGRICULTURAL LAND

In order to collect agricultural property rental data, A.R.S. § 42-13102 requires that an agricultural land lease statement must be filed with the local County Assessor for each lease of agricultural land for a period of more than ninety days. It also requires specific information including the "cash or cash equivalent of the lease payments."

**Agricultural Use Land Value.** A.R.S. § 42-13101(A) requires that land used for qualified agricultural purposes shall be valued using only the statutory income capitalization valuation procedure without any allowance for urban or market influences. Pursuant to this statute, the capitalization rate that is used to value agricultural land is to be the average of the annual effective interest rates that are charged by Farm Credit Services Southwest on long-term loans over the preceding five calendar years, plus one and one-half percentage points. The agricultural capitalization rate is computed annually by the Department and is provided to all Arizona County Assessors. The capitalization rate is applied to the agricultural land rental income for the district that is developed from the agricultural land lease statements reported to the Assessor.

**Nonagricultural Full Cash Value.** Land that may currently be used for some agricultural purpose, but which has not been approved for qualified agricultural classification status by the local County Assessor, is considered to be a "nonqualifying property." It must be given a nonagricultural full cash value utilizing all applicable standard appraisal methods and techniques. Nonagricultural full cash value is that full cash value as prescribed in A.R.S. § 42-11001(5), and it is synonymous with "market value." The statutory income capitalization valuation procedure must not be used to value the land of any nonqualifying agriculturally used property, or the land of any property that is used for any other category of property use.



## PROCEDURES FOR ESTABLISHING AGRICULTURAL LAND VALUES

The valuation of qualified agriculturally used land employs the following process:

- 1. Identify the Type of Agricultural Operation.** All available lease information for each agricultural productivity zone or district should be collected and grouped by the crop grown, by high-density use or by ranching (grazing) use.
- 2. Divide the County into Zones by Type of Agricultural Operation.** Agricultural productivity zones or districts for each type of operation should be identified within each county for different agricultural activities such as grazing, cropland, permanent plantings, and various high-density agricultural uses. The purpose of doing this is to identify the properties in those agricultural zones that have similar characteristics, such as soil types, crop types, crop productivity, water sources, costs, and availability, and typical agricultural practices. Identifying these zones will assist the local County Assessor in determining values per acre for land of similar agricultural use.
- 3. Collect the Lease Data by Type of Agricultural Operation.** Due to the relatively limited amount of agricultural land lease information available (mostly because of the large number of owner-operated agricultural properties), nonreporting could lead to inadequate data being available to the County Assessors to accurately ascertain "average annual net cash rental" amounts in all areas or zones. The use of five-year averaging helps smooth out reporting inconsistencies.

The lease statements that are selected for evaluation should be, as nearly as possible, representative of the entire agricultural productivity zone. The desirable leases are those that are for full calendar years; payments are in cash; the leases can be interpreted to be true arm's length market transactions; and those not having the appearance of being influenced by family or business connections.



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**Note:** The ultimate objective is to value **all** qualified agriculturally used privately-owned land in the County Assessor's jurisdiction, not simply any land that may be leased. The statutory income capitalization valuation procedure makes no allowance for the collection or analysis of owner-operated agricultural property income and expense data. Nor is there any statutory income capitalization valuation procedure for them. Due to the many variations in the income and expense components of the various types of owner-operated agricultural operations, and a general lack of market sales activity, the resulting subjective nature of their analysis and comparison precludes a standard income capitalization approach to valuation for these properties. Therefore, the land of these owner-operated properties is also being valued predicated on the land lease information for the district that is submitted by the owners of leased land that is qualified for agricultural use classification and statutory valuation.

The following questions about leased land should be considered in determining whether or not the lease is typical of local agricultural operations:

- Are the lease terms typical of comparable land leased for similar grazing, crop raising, or high-density agricultural uses?
- Is there sufficient evidence to prove that the lease is enforceable and entered into as an arm's length transaction?
- Is the rental amount consistent with typical farming or ranching leases in the area?

Lease statements which should be excluded from the analysis include those reflecting nontypical rents, initial sharecrop leases, leases that show payment in some form other than cash, and those leases that are not arm's-length. However, the County Assessor may need to analyze all available leases to obtain a broad enough base for a proper analysis. Caution must also be exercised with partial-year leases, which may be typical of leases for agricultural land in some areas. The County Assessor must determine that all leases are obtained for the entire year, since two or more partial-year leases could be combined to substitute for a single, yearlong lease on a particular parcel.



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For example, two or more crops may be grown on a parcel during different growing seasons in the same year, each under a different lease, and possibly by different lessees. Appropriate care must be taken to assure that these leases represent typical lease conditions for properties in that area. In March, the land is leased for a cotton crop at \$20 per acre per month for six months. In November, the same land is leased for winter wheat at \$15 per acre per month for three months. The land is considered to be incapable of production for the balance of the year. To determine gross annual income, the leases must be combined:

\$20 per acre x 200 acres = \$4,000 x 6 months =	\$24,000
15 per acre x 200 acres = 3,000 x 3 months =	9,000
<u>0 per acre x 200 acres =</u> <u>0 x 3 months =</u>	<u>0</u>
Totals	12 months \$33,000

The total annual rent can then be divided by the number of acres. In this example, it results in \$165 gross rent per acre for the year ( $\$33,000 \div 200$  acres). This analysis develops a **gross cash rental**. To develop a **net cash rental**, all applicable expenses of the owner involved in leasing this land must be subtracted from the gross cash rental (see Item 5, Analysis of Expenses, below).

A.R.S. § 42-13101, governing the property tax valuation of private (patented) qualified agriculturally used land, requires that only the statutory income capitalization valuation procedure be utilized, using arm's-length rental agreements of comparable properties for the previous five-year period to determine the estimated "net cash rental" income of an agriculturally used property.

Two points should be made regarding public grazing land, because public land grazing fees may not be reflective of what are true "arm's-length" contractual agreements and rental amounts for the leasing of private land.



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First, public land grazing leases are very common to ranching operations in Arizona. Leased public land usually constitutes a significant part (often, the majority) of a ranching operation's total area. The investment in cattle can be greater than the investment in land since the cattle graze mostly on leased public land. Therefore, these leased public lands can directly affect the overall productivity and profitability of the entire privately held cattle raising operation being valued.

Second, a common ranching practice is to obtain a lease on public land at a rate based on various federal government formulas which result in a reduced lease rate. That lease might be excluded from analysis. However, the lessee may then sublease all or part of that land at a market rate for private leased land. In so doing, the sublease becomes a market lease, and a representative example for the district.

It is very important when analyzing the reported land lease agreements of comparable ranching operations to determine if the leases or subleases utilized include any public land grazing leases, which agency the land is leased from, and if the terms and conditions are significantly different from any local area private land leases. The County Assessor should determine whether or not the terms of the public land grazing leases in effect in the area (or any subleases) are applicable to all ranching operations equally.

If public land lease terms can be considered essentially equal in the area, no value adjustments for public land leases may be necessary. However, if the lease terms for State Trust land versus BLM land versus U.S. Forest Service land in the same area, zone or district differ significantly, and if the local ranching operations being analyzed use the public land of different agencies in conjunction with their privately owned or leased holdings, adjustments for those value differences should be made, as appropriate. If any such adjustments appear necessary, but cannot be effectively determined, the County Assessor should exclude such public land leases from the comparable lease analysis for the valuation of the privately owned rangeland.



**4. Select a Representative Sample.** A representative sample of cash agricultural land lease statements should be used in estimating the "average annual net cash rental" for valuation purposes. Within any district or zone, there may be a lack of agricultural lease information available for determining values. In such cases, agricultural lease information from outside the district, or even from outside of the county, may need to be used as a basis for determining agricultural land values within these districts. If this is necessary, a careful analysis must be made to ensure that comparable properties have similar characteristics. Those characteristics may include climate, production costs, quantity and quality of available water, soil characteristics, carrying capacity, crop productivity, crop patterns and types, etc. Net cash lease amounts will exclude property and sales taxes. Therefore, no adjustment for taxes is necessary for the use of those data in other locations. The use of agricultural lease information from other zones or districts requires the prudent exercise of discretion, opinion and judgement by the County Assessor. The information utilized must be thoroughly documented and should be regularly reviewed.

**5. Analyze the Data.**

**Analysis of Expenses.** A.R.S. § 42-13101 states that the average net cash rental is the "...annual net cash rental, excluding real estate and sales taxes, determined through an analysis of typical arm's length rental agreements," so all real estate and sales taxes must be subtracted from gross rent. In addition, A.R.S. § 42-13102 requires the reporting of the lessor's expenses associated with the property, excluding land cost, interest on the land cost, income taxes, depreciation and the cost of capital improvements. The lessor's expenses may be deducted from gross rental amounts to determine the net cash rental amount that is to be capitalized using the statutory income capitalization valuation procedure for qualified agriculturally used land.



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Appropriate expenses that are attributable to agricultural land rental may include insect and weed eradication assessments, deep-ripping, laser leveling, irrigation ditch construction, maintenance and repair, and any other direct costs of maintaining or improving the agricultural productivity of the land. These owner expenses are reported on the Statement of Agricultural Land Lease (DOR Form 82917).

All expenses occurring from the production of the crop or commodity itself are a normal operating expense of the lessee, and these expenses must not be deducted from the lessor's gross rental income received. Examples of these expenses include seed, fertilizer, and the lessee's equipment and labor costs. Only those owner's expenses that are directly related to generating the rental income from the land are allowable deductions. A simple analysis, that should be applied to each lease, would be: Gross rent minus real estate and sales taxes, and minus other allowable operating expenses, equals the average annual net cash rental amount.

**Average Annual Net Cash Rental.** Leases from each specific zone or district should be analyzed to determine a five-year average rent per acre for each agricultural land use category. The five-year average rent per acre can then be used as the average annual net cash rental to be capitalized for valuation of the qualified land in each category. In most cases, the appropriate unit of comparison is the net rent per acre.

**Capitalization Rate.** Arizona law is very specific in the definition of the capitalization rate that is to be used for the valuation of qualified agricultural land. As required by A.R.S. § 42-13101(2), the average annual net cash rental "shall be capitalized at a rate 1.5 percentage points higher than the average long-term annual effective interest rate for all new farm credit services loans for the five year period before the year for which the valuation is being determined." These annual interest rates are provided to the Department of Revenue by Farm Credit Services Southwest, the successor to the Federal Land Bank.



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The Department then computes the five-year average, adds the one and one-half percentage points, and publishes the capitalization rate to be used for the following tax year. Refer to Table 4.2, or Appendix B, which both provide illustrations of the calculation of the agricultural land capitalization rate.

**6. Land Valuation Using the Statutory Formula.** Qualified agricultural land is to be valued using a statutory income capitalization valuation procedure, prescribed by A.R.S. § 42-13101. That statutory income capitalization valuation procedure is based on the premise of the standard income approach to valuation formula recognized as "IRV" wherein the income to be capitalized (I), divided by the capitalization rate (R), equals the property value (V). In the case of qualified agricultural land, the income to be capitalized has been determined by a careful analysis of the Statements of Agricultural Land Leases and other supporting documents. The capitalization rate is calculated and provided to all Arizona County Assessors by the Department of Revenue. The unknown part of the valuation formula is the land value, which must be calculated. An example of this calculation is found in Tables 4.1 and 4.2.

Table 4.1, located on the following page, provides a detailed illustration of a five-year analysis of agricultural land net rental income through an examination of hypothetical agricultural lease statements. The resulting Average Annual Net Cash Rent figure for the five-year period is \$102.22 per acre.



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Table 4.1

Example of Net Cash Rent per Acre Excluding Sales and Property Taxes									
YEAR	LEASE #	GROSS RENT PER ACRE	GROSS ACRES	TOTAL GROSS RENT	PROP TAX DEDUCT	OPERAT EXPENSE %	OPERAT EXPENSE \$	NET RENT INCOME	NET RENT PER ACRE
One	One	\$ 125.00	300	\$ 37,500	\$ 5,100	5%	\$ 1,875	\$ 30,525	\$ 101.75
One	Two	\$ 130.00	40	\$ 5,200	\$ 680	6%	\$ 312	\$ 4,208	\$ 105.20
One	Three	\$ 125.00	125	\$ 15,625	\$ 2,125	6%	\$ 938	\$ 12,563	\$ 100.50
One	Four	\$ 120.00	660	\$ 79,200	\$ 11,220	5%	\$ 3,960	\$ 64,020	\$ 97.00
One	Five	\$ 127.50	52	\$ 6,630	\$ 884	5%	\$ 332	\$ 5,415	\$ 104.13
<b>Total</b>		\$ 627.50	1,177	\$ 144,155	\$ 20,009		\$ 7,416	\$ 116,730	\$ 508.58
<b>Average</b>		\$ 125.50	\$ 235	\$ 28,831	\$ 4,002	5%	\$ 1,483	\$ 23,346	\$ 101.72
Two	One	\$ 125.00	300	\$ 37,500	\$ 5,100	7%	\$ 2,625	\$ 29,775	\$ 99.25
Two	Two	\$ 130.00	40	\$ 5,200	\$ 680	5%	\$ 260	\$ 4,260	\$ 106.50
Two	Three	\$ 125.00	125	\$ 15,625	\$ 2,125	5%	\$ 781	\$ 12,719	\$ 101.75
Two	Four	\$ 120.00	660	\$ 79,200	\$ 11,220	6%	\$ 4,752	\$ 63,228	\$ 95.80
Two	Five	\$ 127.50	52	\$ 6,630	\$ 884	5%	\$ 332	\$ 5,415	\$ 104.13
<b>Total</b>		\$ 627.50	1,177	\$ 144,155	\$ 20,009		\$ 8,750	\$ 115,396	\$ 507.43
<b>Average</b>		\$ 125.50	\$ 235	\$ 28,831	\$ 4,002	6%	\$ 1,750	\$ 23,079	\$ 101.49
Three	One	\$ 125.00	300	\$ 37,500	\$ 5,550	6%	\$ 2,250	\$ 29,700	\$ 99.00
Three	Two	\$ 130.00	40	\$ 5,200	\$ 740	5%	\$ 260	\$ 4,200	\$ 105.00
Three	Three	\$ 125.00	125	\$ 15,625	\$ 2,313	6%	\$ 938	\$ 12,375	\$ 99.00
Three	Four	\$ 120.00	660	\$ 79,200	\$ 12,210	7%	\$ 5,544	\$ 61,446	\$ 93.10
Three	Five	\$ 127.50	52	\$ 6,630	\$ 962	5%	\$ 332	\$ 5,337	\$ 102.63
<b>Total</b>		\$ 627.50	1,177	\$ 144,155	\$ 21,775		\$ 9,323	\$ 113,058	\$ 498.73
<b>Average</b>		\$ 125.50	\$ 235	\$ 28,831	\$ 4,355	6%	\$ 1,865	\$ 22,612	\$ 99.75
Four	One	\$ 130.00	300	\$ 39,000	\$ 5,625	6%	\$ 2,340	\$ 31,035	\$ 103.45
Four	Two	\$ 132.50	40	\$ 5,300	\$ 750	5%	\$ 265	\$ 4,285	\$ 107.13
Four	Three	\$ 130.00	125	\$ 16,250	\$ 2,344	5%	\$ 813	\$ 13,094	\$ 104.75
Four	Four	\$ 128.00	660	\$ 84,480	\$ 12,375	6%	\$ 5,069	\$ 67,036	\$ 101.57
Four	Five	\$ 130.00	52	\$ 6,760	\$ 975	5%	\$ 338	\$ 5,447	\$ 104.75
<b>Total</b>		\$ 650.50	1,177	\$ 151,790	\$ 22,069		\$ 8,824	\$ 120,897	\$ 521.65
<b>Average</b>		\$ 130.10	\$ 235	\$ 30,358	\$ 4,414	5%	\$ 1,765	\$ 24,179	\$ 104.33
Five	One	\$ 130.00	300	\$ 39,000	\$ 5,775	6%	\$ 2,340	\$ 30,885	\$ 102.95
Five	Two	\$ 132.50	40	\$ 5,300	\$ 770	5%	\$ 265	\$ 4,265	\$ 106.63
Five	Three	\$ 130.00	125	\$ 16,250	\$ 2,406	5%	\$ 813	\$ 13,031	\$ 104.25
Five	Four	\$ 128.00	660	\$ 84,480	\$ 12,705	6%	\$ 5,069	\$ 66,706	\$ 101.07
Five	Five	\$ 130.00	52	\$ 6,760	\$ 1,001	5%	\$ 338	\$ 5,421	\$ 104.25
<b>Total</b>		\$ 650.50	1,177	\$ 151,790	\$ 22,657		\$ 8,824	\$ 120,308	\$ 519.15
<b>Average</b>		\$ 130.10	\$ 235	\$ 30,358	\$ 4,531	5%	\$ 1,765	\$ 24,062	\$ 103.83
<b>FIVE-YEAR AVERAGE</b>								\$	102.22



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Table 4.2 shows an example of the five-year, long-term effective interest rates that are provided by Farm Credit Services Southwest. These rates are the basis for computing the capitalization rate for agricultural land that is used in the income capitalization valuation procedure that is specified by statute. The table illustrates a five-year average effective interest rate of 8.60 percent. As required by A.R.S. § 42-13101(B)(2), 1.5 percentage points must be added to that average interest rate, which then yields the capitalization rate of 10.10 percent:

**Table 4.2**  
Example of  
Farm Credit Services Southwest  
Long Term Effective Interest Rates  
and Capitalization Rate Calculation

<u>Year:</u>	<u>Effective Interest Rate:</u>
One	8.62
Two	8.20
Three	9.75
Four	8.33
Five	<u>8.09</u>
<b>Five-year average =</b>	<b>8.60</b>
plus 1.50 percent	<u>+ 1.50</u>
<b>New Capitalization Rate =</b>	<b>10.10%</b>

Using the five-year annual average net cash rental of \$102.22 illustrated in Table 4.1, and utilizing the capitalization rate of 10.10 percent based on the illustration above, the agricultural use value for the acreage in this example was calculated to be approximately \$1,002 per acre. ( $\$102.22 \div .1010 = \$1,002.18$ , rounded to \$1,002).



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### MIXED-USE PROPERTIES

Agricultural properties are often used for more than one purpose simultaneously. Examples are a roadside retail sales vegetable stand beside the field where the produce is grown, or a farmer's homesite on the same parcel as the cropland. These properties, which are referred to as "mixed-use" properties, must be classified proportionately, by value, in the appropriate legal class for each use occurring on the property. The complete procedure for calculating the effective assessment ratio for mixed-use parcels, along with examples, is described in the Assessment Procedures Manual, Part 3, Chapter 2.

### OTHER VALUATION CONSIDERATIONS WITHIN THE AGRICULTURAL OPERATION

**Buildings and Other Structures.** Structural improvements will vary significantly according to the production needs of the particular agricultural operation. This fact, combined with the generally limited sales activity of agricultural operations, makes both a market sales comparison analysis, and a standard income approach valuation of the improvements (a building residual analysis) ineffectual. Therefore, all structural improvements should be valued using the cost approach. Appraisal information and construction cost data for the valuation of buildings and structures that are used in connection with agricultural land can be obtained from the Department of Revenue's current Construction Cost System or the County Assessor's Office.

Improvements will usually be classified in the same legal class as the land (Legal Class Two), but there are two typical exceptions. The first exception is the structures on a portion of an agricultural parcel that is being used as the family homesite. (See Chapter One, Definitions, Homesite Acreage, and below.) That portion of the parcel that is supporting the residential structures is valued using current market sales data, while the structures are valued using the cost approach. Both that portion of the parcel that is used for the residential homesite, and the residential structures are classified as Legal Class Three, creating a mixed-use assessment ratio for the entire parcel.



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The second exception, pursuant to A.R.S. § 42-12004(6), is the real and personal property of residential structures that are maintained for occupancy by any seasonal or full-time agricultural employees as a condition of employment or as a convenience to the employer. These should be classified as Legal Class Four. However, the land that is associated with these residentially used structures shall be valued as agricultural land, pursuant to A.R.S. § 42-13101, and is to be classified as Legal Class Two. This also creates a mixed-use ratio.

**Note:** If a qualified agricultural parcel has residential improvements leased to someone outside of the family who has no connection to the farming operation, that portion of the land cannot be valued by using the statutory income capitalization valuation procedure. A tenant-occupied homesite (usually one acre or less) is created. This portion of the parcel should be valued using market sales for land in the area. The land and improvements should then be classified as Legal Class Four, pursuant to A.R.S. § 42-12004(1), creating a mixed-use assessment ratio for the agricultural parcel.

**Headquarters Land.** Land that is central to the agricultural operation, with barns, sheds, corrals, machinery storage, etc. that are necessary for the activities of the operation located on it, should be valued in the same manner as the agriculturally used land. Headquarters land may be included in gross acreage to meet the minimum acreage requirements necessary for agricultural use classification. Headquarters land excludes the owner's homesite acreage. Any land under residential structures that are maintained for occupancy by seasonal or full-time agricultural employees is to be valued in a manner consistent with the agricultural use of the overall agricultural operation using the statutory income capitalization valuation procedure, but the improvements are to be classified as Legal Class Four, pursuant to A.R.S. § 42-12004(6).

**Homesite Acreage.** The land that is used for the family residence (typically one acre or less) in the agricultural operation shall be valued using the market sales comparison approach. If only a portion of one parcel is utilized, a mixed-use assessment ratio for the parcel will result. The homesite is a residential land use and it is to be classified as Legal Class Three with a ten percent assessment ratio.



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**Improvements on Possessory Rights (IPRs).** Improvements on unpatented (nondeeded) land or mining claims, and federal and state leased land are to be listed on the tax rolls and have the following characteristics:

1. They are relatively permanent in nature.
2. They are the result of labor and capital expended.
3. They enhance the value of the property.

Improvements on public land held under grazing permits are taxable unless title to the improvements passes to the Federal Government at the termination of the lease. Examples include stock tanks and all earthen reservoirs on Bureau of Land Management (BLM) land; or tanks, ditches, fences and wells on Forest Service (USFS) land. Taxable improvements on or to nontaxable land include buildings, wells, irrigation systems (including sprinkler systems), stock tanks, dams, windmills, fences and roads. Those improvements should be treated by the County Assessor as though they are personal property.

IPRs will be listed and valued using the Department of Revenue's Construction Cost Manual. Ditches, tanks, fences and wells on state land will be valued using costs reported to the State Land Department. See A.R.S. §§ 37-231 and 37-322 for those costs. Ditches and fences on BLM or USFS land will be valued using costs reported to them.

**Permanent Crops.** In Arizona, plants, trees and vines are called "permanent" crops and they are considered to be improvements on the land. They are not included as a part of the land value. They should be valued using the cost approach. Plants, trees and vines are valued at maturity. Their value remains stable until a decline in production occurs.

Examples of plantings that produce permanent crops are:

1. Vineyards - producing wine grapes.
2. Nut Trees - producing pecans, almonds, pistachios, etc.
3. Jojoba shrubs - producing edible beans.



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4. Citrus Trees - producing grapefruit, lemons, oranges, etc.
5. Apple and Stone Fruit Trees - producing peaches, cherries, plums, etc.
6. Christmas Trees. (See Appendix C regarding this type of tree as a crop.)
7. Date Palm Trees - producing edible fruit.
8. Olive Trees – producing edible olives.

Refer to Table C.1 in Appendix C of this manual to determine the per-acre value of permanent crop plantings at maturity and the number of years required to reach maturity by crop type. The values shown in Appendix C are based on their long-term average production, which includes consideration for any periodic crop losses. Because of the long-term averaging, these values should remain fairly constant. However, these values should be subject to periodic review by the local County Assessor.

**Personal Property.** Valuation schedules and related information pertaining to machinery and equipment, unlicensed vehicles and other typical items of agriculturally used personal property may be found in the Department's Personal Property Manual. Personal property that is used for agricultural purposes must be reported, on demand, each year to the local County Assessor in the county where it is located. The Department's Agricultural Business Personal Property Statement (DOR Form 82520A) was developed specifically for this required reporting.

**Undeveloped Land.** Natural, or raw, vacant land within the gross farm acreage that is not used for planting and that does not meet the criteria for wasteland should be classified as vacant land. It is valued on the same basis as all other nonagricultural, undeveloped land of similar size, location, quality and potential use, using market sales data.

**Wasteland.** Wasteland is land contained within the gross acreage of a farm's cropland, but which is unusable for farming. Since it is usually also unbuildable land (e.g., washes, riverbottoms, flood damaged land, etc.) it should be valued using all applicable standard appraisal methods and techniques to reflect any inherent deficiencies.



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Appendix A  
**CARRYING CAPACITY  
OF RANGELAND**

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# **APPENDICES**



## **CARRYING CAPACITY OF RANGELAND IN ARIZONA**

In 1967, Mr. N. Gene Wright, while associated with the Department of Agricultural Economics' Agricultural Experiment Station at The University of Arizona, developed a map showing vegetation and grazing capacities throughout Arizona. It is referred to as the Wright Map. The Department of Revenue adopted that map for use as a basis for the determination of grazing land usage. Research in 2002 verified that the data depicted on the map is still generally valid. A copy of this map is available from the Department.

While this map was prepared primarily for determining the carrying capacity of land for cattle, it may serve as a starting point for all livestock. There may be instances, however, where land will be more suitable for grazing livestock other than cattle, (i.e., goats or sheep). In those instances, a separate determination of carrying capacity should be made. In all cases, "economic feasibility" must also be considered, in conjunction with the land's carrying capacity.

The following tables, one for each Arizona county, show the carrying capacity information from that map. The tables are entitled "Animal Unit Carrying Capacity Per Section By Township." They show township (vertical) and range (horizontal) numbers, with range being identified as east or west and township as north or south. The number in the table for each corresponding township and range is the average animal unit carrying capacity per section for grazing land in that entire township, as they are depicted on the Wright Map. These tables should **only** be used as a starting point to determine whether or not the land might support the minimum carrying capacity of forty animal units. The tables do not, by themselves, establish economic feasibility, and they should not be relied on without an on-site inspection of the land. A map of the state, showing a locator index of townships and ranges, is included at the end of these tables for reference use, but only in the hardcopy versions of this manual. This map is not currently available in an electronic format, and therefore it cannot be included in the version of this manual that is available on the Department of Revenue's web site.



The following four examples describe how these tables are to be interpreted:

1. According to Apache County's Animal Unit Carrying Capacity chart on page A.4, an average section of land that is located within Township 9 North, Range 27 East should be capable of supporting approximately ten animal units. Therefore, for the land to qualify for agricultural classification status and statutory income capitalization valuation, a ranch in this area would have to include at least four sections of land (40 animal units  $\div$  10 units per section = 4 sections), or approximately 2,560 acres.
2. According to La Paz County's Animal Unit Carrying Capacity chart on page A.18, an average section of land that is located within Township 4 North, Range 21 West should be capable of supporting approximately two animal units. Therefore, for the land to qualify for agricultural classification status and statutory income capitalization valuation, a ranch in this area would have to include at least twenty sections of land (40 animal units  $\div$  2 units per section = 20 sections), or approximately 12,800 acres.
3. According to Cochise County's Animal Unit Carrying Capacity chart on page A.5, an average section of land that is located within Township 20 South, Range 29 East should be capable of supporting approximately twenty-two animal units. Therefore, for the land to qualify for agricultural classification status and statutory income capitalization valuation, a ranch in this area would have to include just under two sections of land (40 animal units  $\div$  22 units per section = 1.8 sections), or approximately 1,152 acres.
4. According to Coconino County's Animal Unit Carrying Capacity chart on page A.6, an average section of land that is located within Township 28 North, Range 5 East should be capable of supporting approximately eight animal units. Therefore, for the land to qualify for agricultural classification status and statutory income capitalization valuation, a ranch in this area would have to include at least five sections of land (40 animal units  $\div$  8 units per section = 5 sections), or approximately 3,200 acres.



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Appendix A  
**CARRYING CAPACITY  
OF RANGELAND**

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APACHE COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Township	Range								
	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>	<u>31</u>	
21N	-	-	8	8	8	8	-	-	
20N	-	7	8	8	8	7	10	10	
19N	7	7	7	8	8	7	7	8	
18N	7	7	8	8	8	7	7	7	
17N	8	8	8	7	7	6	7	5	
16N	6	8	7	7	7	6	5	5	
15N	6	6	7	7	7	6	5	5	
14N	7	7	7	9	8	7	5	6	
13N	8	8	8	8	7	7	7	7	
12N	8	9	7	7	7	7	7	7	
11N	8	9	8	8	7	7	8	7	
10N	7	9	9	8	8	8	8	9	
9N	5	7	11	10	9	9	9	9	
8N	5	-	15	11	9	8	8	8	
7N	-	-	10	10	10	9	6	8	
6N	-	-	8	15	13	9	15	9	
5N	-	-	-	11	10	8	4	4	
4N	-	-	-	10	8	-	-	-	

Based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



COCHISE COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Township	Range														
	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>	<u>29½</u>	<u>30</u>	<u>31</u>	<u>32</u>
12S	6	8	10	13	12	10	11	11	5	4	4	-	4	4	6
13S	8	6	9	14	11	10	10	8	7	4	4	-	4	4	7
14S	7	8	9	10	11	9	9	7	8	4	6	-	8	5	4
15S	9	8	9	9	10	10	9	10	11	11	9	-	9	7	4
16S	8	7	8	9	10	9	10	11	11	11	11	10	9	7	5
17S	11	5	6	8	10	12	11	11	11	11	17	9	10	8	5
18S	12	5	5	5	10	12	11	11	10	11	12	8	9	10	8
19S	13	8	5	5	10	11	10	10	11	9	14	-	15	14	8
20S	10	7	5	5	9	10	9	8	8	8	22	-	15	14	9
21S	13	7	7	5	6	9	8	9	8	9	22	-	10	14	12
22S	15	9	7	5	6	7	7	8	9	9	9	-	10	10	12
23S	19	20	13	6	7	7	6	9	9	7	7	-	9	9	9
24S	24	25	15	10	9	6	5	10	10	6	7	-	9	10	9

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



COCONINO COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP

Township	WEST										EAST																	
	10	9	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	9	10	11	12	1/2	13	1/2	14	15	
42N	-	-	-	-	-	-	-	-	4	5	5	5	5	6	7	7	7	8	8	-	-	-	-	-	-	-	-	-
41N	-	-	-	-	-	-	-	-	4	5	5	5	5	6	7	7	7	8	8	-	-	-	-	-	-	-	-	-
40N	-	-	-	-	-	-	-	4	4	4	4	3	4	7	8	8	8	8	-	-	-	-	-	-	-	-	-	-
39N	-	-	-	-	-	-	-	4	4	5	3	3	4	6	8	4	4	-	-	-	-	-	-	-	-	-	-	-
38N	-	-	-	-	-	-	-	4	3	3	3	3	3	6	5	4	-	-	-	-	-	-	-	-	-	-	-	-
37N	-	-	-	-	-	-	-	3	3	3	4	4	3	7	5	5	-	-	-	-	-	-	-	-	-	-	-	-
36N	-	-	-	-	-	-	4	4	4	4	4	4	4	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-
35N	-	-	-	-	-	-	-	4	4	4	4	4	4	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
34N	-	-	-	-	-	-	-	-	-	-	4	4	4	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
33N	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32N	-	-	-	-	8	8	3	3	3	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31N	-	-	-	-	8	8	8	7	3	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30N	-	-	-	-	8	8	8	8	10	11	8	5	5	5	5	5	-	-	-	-	-	-	-	-	-	-	-	-
29N	-	-	-	-	8	8	8	8	10	11	10	5	5	5	5	5	-	-	-	-	-	-	-	-	-	-	-	-
28N	-	-	-	-	8	8	8	8	10	11	9	7	6	5	5	5	-	-	-	-	-	-	-	-	-	-	-	-
27N	-	-	-	8	8	8	8	8	8	11	10	8	8	8	8	8	-	9	9	9	-	-	-	-	-	-	-	-
26N	-	8	8	8	8	8	8	8	8	8	10	9	8	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-
25N	10	9	8	8	8	8	8	8	8	8	11	8	8	7	5	6	7	6	4	7	7	-	-	-	-	-	-	-
24N	-	-	9	8	8	8	8	8	6	10	8	8	6	5	5	5	4	5	3	7	7	-	-	-	-	-	-	-
23N	-	-	-	10	8	8	8	8	10	11	8	9	6	6	7	6	6	9	3	7	7	-	-	-	-	-	-	-
22N	-	-	-	-	-	8	8	9	11	9	8	8	6	8	6	5	9	4	7	7	-	-	-	-	-	-	-	-
21N	-	-	-	-	-	-	-	-	10	10	10	4	5	5	8	8	8	8	5	5	9	-	-	-	-	-	-	-
20N	-	-	-	-	-	-	-	-	-	5	4	3	5	8	8	5	5	4	4	9	9	7	6	-	5	7	-	7
19N	-	-	-	-	-	-	-	-	-	9	6	5	4	4	4	4	5	5	4	9	9	7	7	-	7	7	-	7
18N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	4	4	5	6	7	7	7	7	-	9	8	-	8
17N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	5	4	4	6	7	7	7	9	-	9	7	-	7
16N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	4	7	-	8	-	8	6	-	6
15N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	8	4	6	-	6	-	6	6	-	7
14N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	5	5	5	5	-	3	-	3	2	-	2
13N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	4	4	6	-	4	-	2	3	-	3
12N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	5	5	6	5	-	3	2	2	4	-	4
11N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	6	2	2	3	-	3
10 1/2 N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	4	-	-	-

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



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GILA COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Township	Range														
	←-----EAST----->														
	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>11½</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>14½</u>	<u>15</u>	<u>15½</u>	<u>16</u>	<u>17</u>	<u>18</u>
13N	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
12N	7	6	5	5	6	-	5	-	-	-	-	-	-	-	-
11½N	8	8	8	4	6	6	-	-	-	-	-	-	-	-	-
11N	9	7	8	5	7	8	6	6	2	-	-	-	-	-	-
10½N	-	-	-	-	-	-	7	9	16	-	4	-	-	-	-
10N	6	6	8	8	13	-	9	9	9	-	2	-	-	-	-
9N	-	-	11	9	11	-	12	11	10	-	5	-	-	-	-
8N	-	-	12	9	7	-	8	11	9	-	8	-	-	-	-
7N	-	-	11	10	8	-	7	9	11	-	8	-	-	-	-
6N	-	-	10	7	8	-	12	10	10	-	8	-	-	7	7
5N	-	-	-	10	8	-	11	12	10	-	8	-	8	8	7
4N	-	-	-	10	7	-	-	-	8	-	8	8	8	7	-
3N	-	-	-	-	5	-	7	8	8	-	12	11	8	7	-
2N	-	-	-	-	-	-	8	12	11	-	14	13	10	-	-
1N	-	-	-	-	-	-	-	12	10	-	12	9	-	-	-
1S	-	-	-	-	-	-	9	-	6	8	9	-	9	-	-
2S	-	-	-	-	-	-	-	-	11	-	9	-	9	-	-
3S	-	-	-	-	-	-	-	-	11	-	9	-	5	6	-
4S	-	-	-	-	-	-	-	-	-	-	9	-	6	-	-
5S	-	-	-	-	-	-	-	-	-	-	10	-	6	-	-

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



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GRAHAM COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Range

←-----EAST----->

Township	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>	<u>31</u>
1S	-	-	-	7	-	-	-	-	-	-	-	-	-
2S	-	-	-	7	7	-	-	-	-	-	-	-	-
3S	-	-	-	7	7	6	-	-	-	-	-	-	-
4S	7	6	7	7	5	6	7	-	9	-	-	-	-
5S	11	5	6	6	5	6	7	7	9	6	-	-	-
6S	11	7	7	7	7	6	4	5	5	10	8	-	-
7S	10	9	9	7	5	4	5	5	4	5	5	8	-
8S	8	13	14	12	10	6	5	5	4	5	5	7	-
9S	10	10	14	13	13	8	6	6	4	4	4	4	-
10S	7	8	14	14	12	9	5	6	4	4	4	5	6
11S	6	8	12	18	18	12	9	8	5	4	4	4	6

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



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GREENLEE COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Range

←-----EAST----->

Township	<u>27</u>	<u>28</u>	<u>29</u>	<u>29½</u>	<u>30</u>	<u>31</u>	<u>32</u>
4½N	-	-	-	6	5	6	6
4N	-	8	4	-	4	6	6
3½N	6	-	-	-	-	-	-
3N	-	6	5	-	5	5	5
2N	-	9	6	-	6	9	10
1N	-	15	6	-	9	11	13
1S	-	10	9	-	8	10	13
2S	-	10	10	-	10	10	12
3S	-	8	8	-	10	11	7
4S	-	7	7	-	8	8	7
5S	-	6	7	-	7	6	8
6S	-	-	8	-	7	6	9
7S	-	-	-	-	8	5	5
8S	-	-	-	-	7	5	6
9S	-	-	-	-	-	6	5
10S	-	-	-	-	-	6	6
11S	-	-	-	-	-	6	6

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



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MARICOPA COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Township	Range										Range												
	WEST										EAST												
	10	9	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	9	10	11	12	13
8N	4	4	4	5	6	5	6	-	-	-	-	5	12	15	13	8	6	6	12	-	-	-	-
7N	4	4	4	5	5	5	6	6	7	7	6	5	12	12	12	6	6	8	11	-	-	-	-
6N	4	4	4	5	5	4	4	5	5	6	5	5	5	5	5	5	5	8	10	-	-	-	-
5N	4	4	4	4	4	4	4	4	4	6	4	5	5	6	5	4	4	8	10	10	-	-	-
4N	3	3	3	3	3	3	4	4	4	5	5	5	5	5	5	4	7	10	10	10	-	-	-
3N	3	3	3	3	3	3	3	3	4	-	-	-	4	4	5	4	7	9	10	10	5	7	-
2N	3	3	3	3	3	3	3	3	4	-	-	-	-	-	4	4	6	6	5	5	5	8	12
1N	3	3	3	3	3	3	3	3	4	4	-	-	-	-	4	4	4	-	-	-	-	-	-
1S	3	3	3	3	3	3	3	3	3	3	-	4	4	4	-	-	4	-	-	-	-	-	-
2S	3	3	3	3	3	3	3	3	3	3	3	-	-	-	4	4	4	-	-	-	-	-	-
3S	3	3	3	3	3	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
4S	3	3	3	3	3	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
5S	2	2	2	2	2	2	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
6S	2	2	2	2	2	2	3	3	3	3	4	-	-	-	-	-	-	-	-	-	-	-	-
7S	2	2	2	2	2	-	3	3	3	3	4	-	-	-	-	-	-	-	-	-	-	-	-
8S	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
9S	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
10S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



MOHAVE COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Township	Range																					
	←-----WEST-----																					
	22	21	½	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
42N	-	-	-	-	-	-	-	4	4	3	3	4	4	4	6	7	6	5	6	-	-	4
41N	-	-	-	-	-	-	-	4	4	3	4	4	4	4	7	6	6	7	6	-	-	4
40N	-	-	-	-	-	-	-	3	4	4	4	6	6	4	7	6	6	9	7	5	4	-
39N	-	-	-	-	-	-	-	3	4	4	4	6	6	5	7	6	6	6	6	5	4	-
38N	-	-	-	-	-	-	-	4	4	4	4	6	6	7	6	6	6	6	6	5	4	-
37N	-	-	-	-	-	-	-	4	4	4	7	7	7	6	6	6	6	7	4	3	-	-
36N	-	-	-	-	-	-	-	4	4	4	5	7	6	6	6	7	7	7	7	4	4	-
35N	-	-	-	-	-	-	-	4	6	6	5	6	6	6	6	6	5	6	7	4	4	-
34N	-	-	-	-	-	-	-	4	6	6	6	6	6	6	5	4	5	-	-	-	-	-
33N	-	-	-	-	-	-	-	-	6	6	6	6	6	6	5	5	-	-	-	-	-	-
32N	-	-	-	-	-	-	-	-	-	4	4	4	4	-	-	-	-	-	-	-	-	-
31N	-	-	-	-	-	-	-	-	-	-	4	4	-	-	-	-	-	-	-	-	-	-
30N	3	3	-	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
29N	3	3	-	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
28N	-	3	-	4	4	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-
27N	-	3	-	4	4	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-
26N	-	3	-	4	4	4	5	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-
25N	3	3	-	4	4	4	4	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-
24N	3	3	-	3	4	5	5	6	6	6	6	6	6	10	-	-	-	-	-	-	-	-
23N	-	3	-	3	4	4	5	6	6	6	6	6	8	9	-	-	-	-	-	-	-	-
22N	-	3	-	3	4	4	5	6	6	7	7	7	7	9	-	-	-	-	-	-	-	-
21N	-	3	-	3	4	4	6	7	7	7	7	6	7	10	-	-	-	-	-	-	-	-
20N	3	3	-	3	4	5	6	7	7	6	6	5	12	12	-	-	-	-	-	-	-	-
19N	3	3	-	3	4	5	6	6	7	7	6	5	12	11	-	-	-	-	-	-	-	-
18N	3	3	-	3	4	4	6	6	6	6	6	7	8	11	-	-	-	-	-	-	-	-
17N	3	3	-	3	4	4	4	4	5	6	6	6	7	11	-	-	-	-	-	-	-	-
16½N	-	3	3	4	4	4	4	4	4	4	4	5	6	8	-	-	-	-	-	-	-	-
16N	-	3	3	4	4	4	4	4	4	4	4	6	6	6	-	-	-	-	-	-	-	-
15N	-	-	3	3	4	4	4	4	4	4	4	6	6	6	-	-	-	-	-	-	-	-
14N	-	-	-	3	4	4	4	4	4	4	4	6	6	7	-	-	-	-	-	-	-	-
13N	-	-	-	3	3	4	4	4	4	4	6	6	6	7	-	-	-	-	-	-	-	-
12N	-	-	-	-	3	3	4	4	5	5	5	5	5	6	-	-	-	-	-	-	-	-
11N	-	-	-	-	-	3	3	3	4	4	4	4	4	6	-	-	-	-	-	-	-	-
10N	-	-	-	-	-	-	-	-	3	3	3	-	-	-	-	-	-	-	-	-	-	-

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



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NAVAJO COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Range

←-----EAST----->

Township	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>
20N	7	6	6	6	5	5	7	7	7
19N	7	5	6	6	6	7	7	7	7
18N	8	6	6	6	6	6	6	6	6
17N	7	6	6	6	6	6	6	6	6
16N	6	6	7	6	6	7	6	6	6
15N	7	7	7	7	7	7	6	6	6
14N	2	6	7	7	7	7	6	6	7
13N	3	5	5	6	8	8	7	6	7
12N	4	4	3	4	3	5	7	8	8
11N	3	3	3	2	3	4	3	7	8
10N	-	3	3	2	3	3	3	4	6
9N	-	-	-	-	-	-	3	4	5
8N	-	-	-	-	-	-	-	-	6

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



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PIMA COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Township	←-----WEST-----→										←-----EAST-----→																	
	10	9	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
11S	-	-	-	-	3	3	3	3	-	-	-	-	-	-	5	5	5	5	5	4	5	8	13	13	12	10	5	
12S	-	-	-	-	3	3	3	-	-	-	-	-	-	-	5	-	5	4	4	4	5	7	8	7	9	9	9	
13S	-	-	-	-	3	3	-	-	-	-	-	-	-	-	-	-	-	5	4	4	5	-	-	6	9	10	9	
14S	-	-	-	-	3	3	-	-	-	-	-	-	-	-	-	-	-	5	4	5	6	6	-	7	9	9	11	
15S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	6	5	5	5	7	8	9	13	
16S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	8	8	9	7	7	6	7	9	10	
17S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	8	10	9	7	7	6	9	8	10	
18S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	7	8	8	8	8	7	20	14	13	11	
19S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	9	9	8	8	8	8	8	11	14	25	16	13	
20S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	12	10	11	-	-	-	-	-	-	-	-	
21S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	12	12	13	15	-	-	-	-	-	-	-	-	
22S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	15	19	17	-	-	-	-	-	-	-	-	
23S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



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PINAL COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Township	Range																
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1N	-	-	-	-	-	-	4	5	5	7	8	12	-	-	-	-	-
1S	-	-	-	-	-	-	4	4	9	7	5	9	6	-	-	-	-
2S	-	-	-	-	-	-	4	4	5	5	5	9	11	-	-	-	-
3S	-	-	-	-	-	4	4	5	5	5	7	10	11	-	-	6	6
4S	4	4	4	-	-	-	4	5	5	5	7	10	9	9	6	7	7
5S	-	4	4	4	4	4	4	4	5	5	5	8	10	10	6	7	1
6S	4	4	4	4	4	4	5	6	6	6	6	8	12	10	8	10	12
7S	5	5	5	4	4	4	5	7	5	6	7	8	10	9	9	7	9
8S	5	5	-	-	5	-	-	5	5	5	6	8	9	9	11	7	8
9S	-	-	-	-	5	5	5	6	5	5	7	9	11	10	10	7	7
10S	-	-	-	-	5	5	5	5	5	6	7	9	13	14	15	11	6

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



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**SANTA CRUZ COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\***

Range

	←-----EAST----->								
Township	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>
20S	-	-	12	9	21	17	17	17	16
21S	-	-	15	10	16	19	17	19	18
22S	19	17	21	15	15	16	19	22	19
23S	22	17	19	17	15	20	18	22	19
24S	-	14	20	21	12	13	16	22	24

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



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YAVAPAI COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Township	Range										Range										
	WEST										EAST										
	10	9	8	7	6	5	4	3	2	1	1	½	2	½	3	4	5	6	7	8	9
25N	10	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24N	10	10	9	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23N	9	8	10	10	8	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22N	9	9	10	10	10	8	8	8	9	11	-	-	-	-	-	-	-	-	-	-	-
21N	10	10	10	10	10	8	8	8	8	-	-	-	-	-	-	-	-	-	-	-	-
20N	12	12	10	6	6	8	8	8	8	10	-	-	-	-	-	-	-	-	-	-	-
19N	11	11	10	6	6	6	8	8	7	8	-	-	-	-	-	-	-	-	-	-	-
18N	11	11	10	8	4	7	8	8	8	8	7	-	6	-	5	5	5	-	-	-	-
17N	11	11	10	8	4	8	8	8	9	9	7	-	8	-	6	5	5	-	-	-	-
16½N	8	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16N	6	10	9	6	9	6	8	10	10	11	10	-	9	-	6	6	5	5	6	-	-
15½N	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15N	6	10	10	10	8	7	8	7	10	11	8	-	10	3	4	7	6	5	5	-	-
14½N	-	-	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14N	7	10	8	8	8	10	9	6	10	10	9	-	10	13	8	8	6	7	7	-	-
13N	7	7	8	9	9	9	10	13	9	13	10	10	9	-	9	8	6	6	-	-	-
12½N	-	-	-	-	-	-	-	7	5	13	-	-	-	-	-	-	-	-	-	-	-
12N	6	6	7	8	9	9	9	9	6	11	10	-	11	-	10	15	10	10	7	-	-
11N	6	7	7	8	9	9	9	10	8	10	7	-	12	-	13	13	16	14	-	-	-
10N	5	5	6	7	8	9	7	10	12	7	11	-	7	-	8	8	11	9	-	-	-
9½N	-	-	-	-	-	-	-	-	-	-	11	-	7	-	8	8	8	6	-	-	-
9N	4	4	4	5	5	9	8	9	9	8	8	-	7	-	10	14	14	6	6	7	-
8N	4	4	4	5	6	5	6	8	8	7	6	-	5	-	12	15	13	8	6	6	12
7N	-	-	-	-	-	-	6	6	7	7	6	-	5	-	-	-	-	-	-	-	-

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



YUMA COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Township	Range															
	←-----WEST-----→															
	<u>25</u>	<u>24</u>	<u>23</u>	<u>22</u>	<u>21</u>	<u>20</u>	<u>19</u>	<u>18</u>	<u>17</u>	<u>16</u>	<u>15</u>	<u>14</u>	<u>13</u>	<u>12</u>	<u>11</u>	<u>10</u>
1N	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
1S	-	-	-	-	-	-	2	-	-	-	-	2	2	2	3	-
2S	-	-	-	-	-	-	2	-	-	-	-	-	2	2	3	3
3S	-	-	-	-	-	-	2	-	-	-	-	-	2	2	3	3
4S	-	-	-	-	-	-	2	-	-	-	-	-	2	2	3	3
5S	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2
6S	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	-
7S	-	-	-	2	2	2	2	2	2	2	2	2	2	2	2	2
8S	-	-	-	2	2	2	2	2	2	2	2	-	-	-	-	-
9S	-	-	-	2	2	2	2	2	2	2	-	-	-	-	-	-
10S	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
11S	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
12S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



Department of Revenue  
 Property Tax Division  
**AGRICULTURAL PROPERTY MANUAL**

Appendix A  
**CARRYING CAPACITY OF RANGELAND**  
 Issued: January 1, 2004

LA PAZ COUNTY ANIMAL UNIT CARRYING CAPACITY PER SECTION BY TOWNSHIP\*

Township	Range														
	←-----WEST-----→														
	<u>24</u>	<u>23</u>	<u>22</u>	<u>21</u>	<u>20</u>	<u>19</u>	<u>18</u>	<u>17</u>	<u>16</u>	<u>15</u>	<u>14</u>	<u>13</u>	<u>12</u>	<u>11</u>	<u>10</u>
11N	-	-	-	-	-	-	3	3	3	-	-	4	4	4	6
10N	-	-	-	-	-	3	3	3	3	3	3	3	4	4	5
9N	-	-	-	-	-	3	3	3	3	3	3	3	4	4	4
8N	-	-	-	-	-	3	3	3	3	3	3	3	3	4	4
7N	-	-	-	-	3	3	3	3	3	3	3	3	3	4	4
6N	-	-	-	-	3	3	3	3	3	3	3	4	4	4	4
5N	-	-	-	-	3	3	3	3	3	3	3	4	4	4	4
4N	-	-	-	2	2	2	2	2	2	2	2	2	3	3	3
3N	-	-	2	2	2	2	2	2	2	2	2	2	3	3	3
2N	-	-	2	-	-	2	-	-	-	-	2	2	2	3	3
1N	-	2	-	-	-	-	-	-	-	-	2	2	2	3	3
1S	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
2S	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
3S	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
4S	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-

\*based on N. Gene Wright's map "CARRYING CAPACITY OF RANGELAND IN ARIZONA"



## CALCULATION OF THE AVERAGE ANNUAL EFFECTIVE INTEREST RATE AND THE AGRICULTURAL LAND CAPITALIZATION RATE

The procedure for determining the capitalization rate that is to be used for qualified agricultural land valuation is prescribed in A.R.S. § 42-13101. That rate is specified as being "...one and one-half percentage points higher than the average long-term annual effective interest rate for all new federal land bank loans for the five year period prior to the year for which the valuation is being determined." Farm Credit Services Southwest provides the required interest rate information to the Department of Revenue.

**Average Annual Effective Interest Rate Calculation.** The interest rate that is charged on these agricultural loans varies with each individual loan. Farm Credit Services Southwest may impose certain requirements and surcharges on some borrowers which are considered in determining the effective interest rate that is to be used in the capitalization rate for qualified agricultural land. These currently include a requirement that the borrower must own enough stock in Farm Credit Services Southwest to equal four percent of the loan amount requested. This stock purchase is financed as a portion of a gross loan. However, interest is not presently being charged on this stock (as of May 1, 1996). In the past, a surcharge based on loan amount (an origination fee) was also applied. That practice was discontinued effective July 1, 1994.

The formula used to calculate the effective interest rate for a new loan is as follows:

$$\frac{(\text{Loan Amount} \times \text{Interest}) + (\text{Stock Cost} \times \text{Interest}) + (\text{Surcharge} \times \text{Interest})}{(\text{Loan Amount} + \text{Stock Cost} + \text{Surcharge}) - (\text{Stock Cost} \times \text{Interest}) - \text{Surcharge}} = \text{Effective Annual Rate}$$

The above formula is designed to accommodate changes in policy by Farm Credit Services Southwest, such as in periods during which a surcharge may or may not be charged, or in periods in which interest may or may not be charged on the amount of the stock purchased. Farm Credit Services Southwest provides the Department an annual report listing all loans originated during a twelve month period ending June 31.



The formula is then applied to calculate the effective interest rate for each loan originated by Farm Credit Services Southwest within that twelve-month period. Averaging these individual effective interest rates then provides the **average annual effective interest rate** for all loans originated.

**Agricultural Capitalization Rate Calculation.** After obtaining the average annual effective interest rate for the five-year period prior to the year for which the valuation is being determined, the capitalization rate is computed as in the following example:

<u>Year:</u>	<u>Effective Interest Rate:</u>
One	8.62
Two	8.20
Three	9.75
Four	8.33
Five	<u>8.09</u>
<b>Five-year average =</b>	<b>8.60</b>
<u>plus 1.50 percent</u>	<u>+ 1.50</u>
<b>New Capitalization Rate =</b>	<b>10.10%</b>



## PERMANENT CROPS

Arizona's typical permanent crop plantings, their value per acre at maturity, and the estimated number of years to reach maturity are shown below.

**Table C.1**  
Permanent Crop  
Values at Maturity, Dates of Maturity

	<u>Value Per Acre</u> <u>At Maturity</u>	<u>Maturity Date</u> <u>Year After Planting</u>
Apples/Stone Fruit Trees	\$100	Fourth Year
Christmas Trees	\$600	Third Year
Date Trees	\$100	Fifth Year
Vineyards	\$100	Fourth Year
Jojoba Plants	\$100	Eighth Year
Nut Trees	\$600	Eighth Year
Pecan Trees	\$600	Eighth Year
Citrus Trees	\$600	Fifth Year
Lemon Trees	\$600	Fifth Year
Olive Trees	\$600	Fifth Year
Orange Trees	\$600	Fifth Year
Orange Trees, Minneola	\$600	Fifth Year
Orange Trees, Navel	\$600	Fifth Year
Pink Grapefruit Trees	\$600	Fifth Year
White Grapefruit Trees	\$600	Fifth Year
Tangelo Trees	\$600	Fifth Year
Tangerine Trees	\$600	Fifth Year