

The seal of the Texas Comptroller of Public Accounts is a circular emblem. It features a central five-pointed star surrounded by a wreath of olive and oak branches. The words "THE COMPTROLLER" are inscribed along the top inner edge, and "TEXAS" is at the bottom. The entire seal is rendered in a light, semi-transparent green color against the dark green background.

Glenn Hegar

Texas Comptroller of Public Accounts

Manual for the Appraisal of
Agricultural Land

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Introduction

Until the 1960s, Texas farm and ranch land was taxed on its market value — the price a buyer would pay for it in an ordinary market transaction. As Texas became more urbanized, farm and ranch land in many cases increased dramatically in value, especially in developing areas. Even if a farmer or rancher never intended to develop the land, its value increased because it could be developed.

In 1966, Texas voters approved the first agricultural appraisal law. A constitutional amendment added Section 1-d to Article VIII of the Texas Constitution.¹ This amendment — and the appraisal statutes that implement it² — provides that certain kinds of farm land be “appraised at its value based on the land’s capacity to produce agricultural products,”³ not at market value. In many cases, this appraisal technique substantially reduces taxation of land that qualifies for agricultural appraisal. This special appraisal technique has several popular names including productivity valuation, productivity appraisal, special appraisal and agricultural (ag) appraisal.⁴ Tax Code Chapter 23, Subchapter C (Sections 23.41 – 23.48) governs the appraisal of land designated for agricultural use pursuant to Texas Constitution Article VIII, Section 1-d and is referred to as 1-d or ag-use appraisal law.

Section 1-d is restrictive, applying only to land owned by families or individuals. Agriculture must be the property owner’s primary occupation and source of income.

In 1978, Texas voters approved a second constitutional amendment adding Section 1-d-1, allowing open-space land (as well as timberland) to be appraised based on its productivity value.⁵ This amendment allows eligibility for productivity appraisal for corporations as well as individuals; there

are no income or occupation tests. This constitutional amendment took effect in 1979. Tax Code Chapter 23, Subchapter D (Sections 23.51-23.60) governs the appraisal of agricultural land pursuant to Texas Constitution Article VIII, Section 1-d-1 and is also referred to as the 1-d-1 or open-space appraisal law. Because most of the eligible land in Texas now qualifies under the open-space law, this manual emphasizes its particular procedures and requirements.

In 1995, Texas voters approved amending Texas Constitution Article VIII, Section 1-d-1 to permit agricultural appraisal for land used to manage wildlife.⁶

The Tax Code assigns most agricultural appraisal responsibilities to the chief appraiser but directs the Comptroller’s office to “promulgate rules specifying the methods to apply and the procedures to use in appraising land designated for agricultural use,” under the 1-d law.⁷ The Comptroller, by rule, must develop appraisal manuals for qualified open-space land under the 1-d-1 law.⁸ The Comptroller’s office carries out these duties by developing this agricultural appraisal manual, adopting it by rule⁹ and making it available on its website.¹⁰ Appraisal districts are to use this manual in appraising qualified open-space land and ag-use land.¹¹ Examples and figures are illustrative and not mandatory.

This manual is adopted under the rule-making authority of the Comptroller’s Property Tax Assistance Division (PTAD) with the review and counsel of the Texas Department of Agriculture.¹²

¹ Tex. H.J.R. 79, 59th Reg. Sess. (1965)

² Tex. Tax Code §§23.41-23.48

³ Tex. Tax Code §23.41(a)

⁴ These popular appraisal names are used interchangeably and when referring to appraisals under either the 1-d or 1-d-1 laws.

⁵ Tex. H.J.R. 1, 65th 2nd Called Sess. (1978)

⁶ Tex. H.J.R. 72, 74th Reg. Sess. (1995)

⁷ Tex. Tax Code §23.41(b)

⁸ Tex. Tax Code §23.52(d)

⁹ 34 Tex. Admin. Code §9.4001

¹⁰ Tex. Tax Code §§23.41-23.46 and 23.51-23.57

¹¹ Tex. Tax Code §§23.52(d) and 23.41(b)

¹² Tex. Tax Code §23.52(d)

In addition to this manual, PTAD also publishes a *Manual for the Appraisal of Timberland* that describes application, qualification, appraisal and rollback procedures for timberland, as well as *Guidelines for Qualification of Agricultural Land in Wildlife Management Use*.

Open-Space and Ag-Use Appraisal Laws Compared

Several elements are common to both the open-space and ag-use laws:

- A property owner must apply for agricultural appraisal. The owner must file a special form with the appraisal district before the deadline.¹³
- The agricultural appraisal applies only to land, fences and certain appurtenances. It does not apply to improvements or equipment.¹⁴

- The chief appraiser must act on each application received and notify the property owner if the chief appraiser denies the application or needs more information.¹⁵
- A property owner may appeal the denial of agricultural appraisal and a change of use determination to the appraisal review board.¹⁶
- Land that receives agricultural appraisal is subject to a tax penalty (rollback tax) and interest when taken out of agricultural use.¹⁷
- Property qualified as 1-d or 1-d-1 land (other than wildlife management) that is subject to a temporary quarantine of at least 90 days for ticks may be reappraised. The effect on the value of the land caused by the tick infestation is an additional factor to be taken into account.¹⁸

Exhibit 1 contrasts some of the key differences in the two laws.

EXHIBIT 1 Key Differences in 1-d and 1-d-1 Laws

Element	1-d	1-d-1
Reapplication	Requires the property owner to reapply every year ¹	Requires reapplication only when the property changes ownership or eligibility to receive the special appraisal ends. ²
Property owner	Requires the property owner to be an individual ³	Allows both individuals and corporations to qualify. ⁴
Occupation and income	Requires that agriculture be the property owner's primary occupation and source of income. The property owner must show that agriculture is conducted for profit. ⁵	Has no occupation, income or profit requirements. Instead, it focuses on whether the land is used to the degree of intensity typical in the area for a particular agricultural enterprise. ⁶
Number of preceding years devoted principally to qualifying ag use or timber production	Three years immediately preceding qualification. ⁷	Five of the seven preceding years. ⁸
Rollback tax	Requires a rollback tax and interest when the property is taken out of agricultural use or when it is sold. The rollback recaptures taxes for the three preceding years. ⁹	Requires a rollback tax and interest only when agricultural operations cease or the use changes and the rollback recaptures taxes for the five preceding years. ¹⁰

¹ Tex. Tax Code §§23.43(a) and (c)

² Tex. Tax Code §23.54(e)

³ Tex. Const. art. VIII §1-d(a)

⁴ Tex. Const. art. VIII §1-d-1

⁵ Tex. Tax Code §23.42

⁶ Tex. Tax Code §23.51(1)

⁷ Tex. Tax Code §23.42(a)(1)

⁸ Tex. Tax Code §23.51(1)

⁹ Tex. Tax Code §23.46(c)

¹⁰ Tex. Tax Code §23.55(a)

¹⁵ Tex. Tax Code §§23.44 and 23.57

¹⁶ Tex. Tax Code §41.41(a)(5) and (8)

¹⁷ Tex. Tax Code §§23.46 and 23.55

¹⁸ Tex. Tax Code §§23.48 and 23.60

¹³ Tex. Tax Code §§23.43 and 23.54

¹⁴ Tex. Tax Code §§23.41 and 23.51

Roles of Appraisal Districts and Tax Offices

A chief appraiser's duties and authority are to:

- create a land classification system covering each type of agricultural land typical in the appraisal district;¹⁹
- calculate typical net income, based on a variety of sources, for prudently managed agricultural operations;²⁰
- determine land use and degree of intensity standards for certain qualifying land;²¹
- provide applications and act separately on each agricultural appraisal application;²²

- determine if and when a change of use occurs and notify the property owner of the determination;²³
- appraise each property and prepare appraisal records listing information on agricultural property;²⁴ and
- notify the property owner of the appraisal district's actions as required by the Tax Code.

A tax assessor's duties are to:

- calculate taxes on the property;²⁵
- deliver tax bills;²⁶ and
- calculate and deliver a rollback tax bill when the rollback tax and interest become due.²⁷

¹⁹ Tex. Tax Code §§23.51(3)

²⁰ Tex. Tax Code §§23.41, 23.51(4) and 23.52(a)

²¹ Tex. Tax Code §§23.42(a)(2), (3) and (d)(1) and 23.51(1), (2) and (3)

²² Tex. Tax Code §§23.43(e), 23.44, 23.54(f) and (g) and 23.57

²³ Tex. Tax Code §§23.46 and 23.55

²⁴ Tex. Tax Code §§23.41, 23.46(a), 23.52(a) and (e), 25.011 and 25.02(a)(5)

²⁵ Tex. Tax Code §26.09

²⁶ Tex. Tax Code §31.01

²⁷ Tex. Tax Code §§23.46(c) and 23.55(e)

Qualification of Land Under Section 1-d-1

As the Texas Supreme Court noted in 1993, the “Texas Constitution promotes the preservation of open-space land by authorizing the legislature to tax open-space land devoted to farm or ranch purposes on the basis of its productive capacity.”²⁸ The court also stated that the “Constitution further authorizes the legislature to provide eligibility limitations for the open-space designation.”²⁹ Special agricultural appraisal under the 1-d-1 law is only allowed if the property owner proves the specific statutory requirements of Tax Code Chapter 23, Subchapter D.³⁰ Land will not qualify for productivity valuation simply because it is rural or has some connection with agriculture. Neither will it qualify because it is open land that has no other possible use. The law does not provide a tax break for every use of open-space land.³¹ For example, casual uses such as home vegetable gardens do not qualify for productivity appraisal.

Generally, land may qualify for agricultural appraisal if it is “currently devoted principally to agricultural use to the degree of intensity generally accepted in the area.”³² To qualify for special appraisal, the property owner must apply for the appraisal and provide to the chief appraiser “the information necessary” for the appraisal district “to determine the validity of the claim.”³³

For land to qualify for 1-d-1 appraisal for agricultural use, it must meet four eligibility requirements as shown in **Exhibit 2** and successfully complete the application process.³⁴ **Appendix A** shows how these requirements apply to sample properties.

EXHIBIT 2

1-d-1 Eligibility Requirements

Four 1-d-1 Eligibility Requirements

1. Applied to land and all appurtenances (not improvements)
2. Devoted currently and principally to agricultural use
3. Passed degree of intensity test
4. Passed time period test

Eligibility Requirements

1. 1-d-1 Land and Appurtenances

Agricultural appraisal applies only to land and appurtenances.³⁵ It does not apply to improvements on land, minerals or agricultural products that may be connected with the land.³⁶ For example:

Improvements — Buildings and structures such as barns, sheds, silos and other farm outbuildings must be appraised separately at market value.³⁷ Land beneath farm buildings and other agricultural improvements qualifies for special appraisal because it is used in connection with the agricultural operation.³⁸

Minerals — The appraisal of minerals (including oil, gas or any hard mineral) or subsurface rights to minerals is not included in the special appraisal of 1-d-1 land³⁹ and must be appraised separately.

Products of the agricultural operation — Farm products in the hands of the producer including livestock, poultry, eggs, timber, peaches, cotton, peanuts, grain, etc. may be exempt from taxation because of other provisions of Texas law⁴⁰ and are not included in the special appraisal of 1-d-1 land. Machinery and equipment that are used in the production of

²⁸ *Tarrant Appraisal District v. Moore*, 845 S.W.2d 820, 821 (Tex. 1993)

²⁹ *Tarrant Appraisal District v. Moore*, 845 S.W.2d 820, 821 (Tex. 1993)

³⁰ *Cordillera Ranch, Ltd. v. Kendall County Appraisal District*, 136 S.W.3d 249, 254 (Tex. App.—San Antonio, 2004)

³¹ Tex. Tax Code §§23.51, 23.52 and 23.521

³² Tex. Tax Code §23.51(1)

³³ Tex. Tax Code §23.54(a) and (b)

³⁴ Tex. Tax Code §§23.51(1) and 23.54

³⁵ Tex. Tax Code §23.51(1)

³⁶ Tex. Tax Code §§11.16, 11.161, 23.51 and 23.52

³⁷ Tex. Tax Code §§23.01(a) and 23.51(1)

³⁸ Tex. Tax Code §23.51(1)

³⁹ Tex. Tax Code §23.52(f)

⁴⁰ Tex. Tax Code §11.16

farm or ranch products or of timber are implements of husbandry and also may be exempt.⁴¹ An Attorney General opinion concluded that items which are neither fixtures nor improvements to real property, such as tractors, cultivators and trailers, could qualify as implements of husbandry depending upon the fact situation in each case.⁴² Another Attorney General opinion concluded that “a court would likely uphold the Comptroller’s interpretation of section 11.161” – the exemption for implements of husbandry – “that a cattle feedlot is engaged in the ‘production of farm or ranch products.’”⁴³

Appurtenances – Generally, appurtenances are man-made alterations of, or additions to, agricultural land that are included in the value of the land and are not separately appraised. For purposes of special appraisal of 1-d-1 land, appurtenances are private roads, dams, reservoirs, water wells, canals, ditches, terraces and other similar reshaping of the soil (such as stock tanks); fences; riparian water rights; and decorative trees, windbreaks, fruit trees or nut trees.⁴⁴ Although a water well is an appurtenance, pumps, windmills and other fixed attachments are valued separately at market value.

Riparian water rights — The landowner’s right to use natural bodies of water adjoining the land are appurtenances and included in the special appraisal of the land.⁴⁵

2. Current and Principal Agricultural Use

Land must be currently devoted principally to agricultural use,⁴⁶ to the degree of intensity generally accepted in the area. The 1-d-1 appraisal statute identifies the following activities as agricultural uses:⁴⁷

- Cultivating the soil, producing crops for human food, animal feed or planting seed or for the production of fibers.
- Floriculture – the cultivation and management of ornamental and flowering plants.
- Viticulture – the cultivation of grapes.
- Horticulture – the cultivation of fruits, vegetables, flowers, herbs or other plants.
- Raising or keeping livestock, i.e., a domesticated animal that derives its primary nourishment from vegetation, supplemented as necessary with commercial feed. Livestock

includes beef or dairy cattle, horses, goats, swine, poultry and sheep. Wild animals are not livestock.

- Raising or keeping exotic animals for the production of tangible products having a commercial value. Exotic game means a cloven-hoofed ruminant mammal or exotic fowl that is not native to Texas and is not livestock.⁴⁸ Raising such game may qualify but must meet the primary use test.
- Planting cover crops or leaving land idle for participation in a government program or in conjunction with normal crop or livestock rotation procedure. Land left idle for crop rotation qualifies until it is left idle for longer than the crop rotation period typical for the crop in the area.
- Producing or harvesting logs and posts for constructing or repairing fences, pens, barns or other agricultural improvements on adjacent qualified open-space land owned by the same owner but devoted to a different agricultural use.
- Wildlife management (as defined under Tax Code Section 23.51(7)).
- Raising or keeping bees for pollination or for the production of human food or other commercial products. The land used must not be less than 5 acres or more than 20 acres.⁴⁹

This list may not be exhaustive. The statute provides that agricultural use “includes but is not limited to” the activities identified above.⁵⁰ Production of any commercially valuable livestock, fish or poultry product would appear to constitute agricultural use as well. For example, the Texas Attorney General ruled that agriculture includes mariculture and that land used to produce fish and other forms of aquatic life can qualify for an agricultural appraisal.⁵¹

Wildlife Management

Land on which the owner engages in wildlife management and which meets certain agricultural use requirements may qualify for special appraisal and is technically in agricultural use.⁵² Property may qualify for special appraisal for wildlife management if the land is being actively used:

- as qualified open-space land or as qualified timberland under Tax Code Chapter 23, Subchapter E, and was appraised as such at the time wildlife management use began in at least three of the following ways to propagate a sustaining breeding,

⁴¹ Tex. Tax Code §§11.161, 11.43 and 11.45

⁴² Tex. Op. Att’y Gen. MW-451 (1982)

⁴³ Tex. Op. Att’y Gen. GA-1015 (2013)

⁴⁴ Tex. Tax Code §23.51(1)

⁴⁵ Tex. Tax Code §23.51(1)

⁴⁶ Tex. Tax Code §23.51(1)

⁴⁷ Tex. Tax Code §23.51(2)

⁴⁸ Tex. Tax Code §23.51(6)

⁴⁹ Tex. Tax Code §23.51(2)

⁵⁰ Tex. Tax Code §23.51(2)

⁵¹ Op. Tex. Att’y Gen. No. JM-87 (1983)

⁵² Tex. Tax Code §§23.51(1), (2) and (7), 23.521 and 34 Tex. Admin. Code 9.2001-9.2005

migrating or wintering population of indigenous wild animals for human use including food, medicine or recreation:

- » habitat control
- » erosion control
- » predator control
- » providing supplemental supplies of water
- » providing supplemental supplies of food
- » providing shelters
- » making of census counts to determine population
- to protect federally listed endangered species under a federal permit if the land is:
 - » included in a habitat preserve and is subject to a conservation easement created under Natural Resources Code Chapter 183; or
 - » part of a conservation development under a federally approved habitat conservation plan that restricts the use of the land to protect federally listed endangered species; or
- for a conservation or restoration project to provide compensation for natural resource damages subject to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. Section 9601 et seq.), the Oil Pollution Act of 1990 (33 U.S.C. Section 2701 et seq.), the Federal Water Pollution Control Act (33 U.S.C. Section 1251 et seq.) or Natural Resources Code Chapter 40.

The Texas Parks and Wildlife Department (TPWD), with the assistance of the Comptroller's office, developed standards for determining the qualification of land for wildlife management use. These standards are adopted by rule and published in Title 34, Texas Administrative Code, Sections 9.2001-9.2005.⁵³

In addition to this manual, the Comptroller's office publishes the *Guidelines for Qualification of Agricultural Land in Wildlife Management Use* and TPWD publishes the *Comprehensive Wildlife Management Planning Guidelines* for each ecoregion in Texas. Pursuant to Title 34, Texas Administrative Code, Section 9.2004(a), the chief appraiser is required to determine if land qualifies for agricultural appraisal based on wildlife management use:

in compliance with, and in a manner consistent with, §9.2005 of this title (relating to Wildlife Use Requirement), the *Manual for the Appraisal of Agricultural Land*, the *Guidelines for Qualification of [Agricultural] Land in Wildlife Management Use*, and the *Comprehensive*

Wildlife [Management] Planning Guidelines for the ecoregion in which the tract of land is located.

For assistance with a specific issue involving wildlife management use as it pertains to qualifying for special appraisal (including degree of intensity requirements), please consult the Comptroller's *Guidelines for Qualification of Agricultural Land in Wildlife Management Use* as well as the TPWD's *Comprehensive Wildlife Management Planning Guidelines*. More information can also be found on TPWD's website.

Nonqualifying Agricultural Activities

Some agriculture-related activities that do not qualify land for agricultural appraisal are:

Harvesting native plants or wildlife. Harvesting shrubs that grow wild on the land — mountain laurel, yaupon, etc. — or harvesting or hunting native wild animals such as deer or turkey, will not qualify land for agricultural appraisal.

Processing plants or animals. Activities that take place after the crop or animal has been raised and harvested do not qualify land for special appraisal. Activities such as pasteurizing and bottling milk; fermenting grapes and bottling wine; or slaughtering, dressing and packing meat will not qualify land for agricultural appraisal.

By definition, any activities a non-producer carries out on agricultural products constitute processing. A non-producer cannot qualify property for agricultural valuation. For example, the operator of a grain silo who purchases grain for storage and resale cannot receive agricultural valuation for the land the silo occupies.

Under certain circumstances, primary producers may process agricultural products. In these cases, the land devoted to processing activities does not qualify for agricultural valuation. In such cases, the line between production and processing activities can become extremely fine. Chief appraisers must be certain to gather all facts necessary for making an accurate distinction. No rules clearly distinguish between production and processing. In general, an activity must meet at least one of the following standards before it counts as processing:

- Processing begins with those steps typically carried out at the first level of trade beyond production. Storage or packaging for wholesale trade would constitute processing, as would slaughtering livestock while the producer's interim

⁵³ Tex. Tax Code §23.521(a)

storage prior to sale to a wholesaler or other middleman would not. Goods in storage may be exempt as farm products in the hands of the producer, and land devoted to storing them would be eligible for agricultural valuation.

- Processing begins when primary agricultural products are broken into smaller parts or combined with other products.
 - » Grain, for example, is processed when it is milled.
 - » Milk is processed when it is separated into butter, milk and other dairy products.
 - » Grapes are processed when they are washed, sorted or crushed.
 - » Vegetables and fruits are processed when they are washed and packaged for sale at the wholesale or retail level.
- Processing begins when activities occur that enhance the value of primary agricultural products. Milling grain, pasteurizing milk and ginning cotton constitute processing.
- Packaging products for transport to market would not constitute processing, but packaging them for sale would.

Principal or Primary Use

Land must be devoted principally to agricultural use.⁵⁴ If the land is used for more than one purpose, the most important or primary use⁵⁵ must be for agricultural use. For example, if the principal use of the land is for horseback riding for pleasure (recreational use) and not for farm or ranch purposes (agricultural use), it will not qualify for special appraisal.⁵⁶

Other uses of the land do not necessarily disqualify land for special appraisal if the primary use is agriculture. For example, land used primarily to graze cattle could also be leased for hunting. Leasing land for hunting is compatible with a primary use of land for grazing cattle. The appraiser must determine which use is primary. If one of these other uses replaces agriculture as the primary use of land, then the land is no longer principally devoted to agricultural use and does not qualify for agricultural appraisal. As discussed later in this manual, a land's change of use can affect its qualification for agricultural appraisal.

Horses

In 1993, the Texas Supreme Court essentially set out in *Tarrant Appraisal Dist. v. Moore*, 845 S.W.2d 820 (Tex. 1993), the test to determine whether land used principally for horses

qualifies for agricultural appraisal. Land used primarily for “raising, breeding, and/or grazing horses” and other activities that are for “farm or ranch purposes” are agricultural uses. In particular, “growing grass on land for the purpose of feeding animals, including horses, is an agricultural use.” As with the review of all 1-d-1 applications, the intensity of use issue also is required to be evaluated before granting special appraisal.

The principal use of the land must be agricultural—for “farm or ranch purposes”—not recreational ones. “[I]f the use of the land is principally recreational, or as a hobby, then the activity, although agricultural in nature, is not one that promotes a farm or ranch purpose but instead promotes a recreational purpose.” If “the land is used primarily to show, train, stable, race, care for or otherwise divert livestock from a farm or ranch purpose, that land so diverted is not eligible as qualified open space land.”⁵⁷ Similarly, land used as a stable, where horses are kept, fed and cared for, is not being used primarily for an agricultural use, unless the stable is incidental to farm or ranch purposes.

The “law does not require that agriculture be the primary occupation and primary source of income of the landowner nor that the use of the land be an occupation or a business venture for profit.”⁵⁸

The *Moore* case demonstrates that in reviewing each application for special agricultural appraisal, the chief appraiser is to consider all of the facts surrounding the property owner's use of the land—the totality of the circumstances—to determine whether, in the exercise of his or her professional judgment, 1-d-1 appraisal should be granted. This includes an examination of all the 1-d-1 eligibility requirements. In particular, if the chief appraiser determines the owner's current and principal use of the land is for “farm or ranch” purposes—and not recreational ones—special appraisal cannot be granted unless this agricultural use of the land also meets the required “degree of intensity generally accepted in the area” test.

Exotic Animals

The principal agricultural use test is particularly important when reviewing an application for special appraisal for land used for raising or keeping exotic animals. To qualify for special appraisal, the law requires the purpose in using the land for these animals be for the production of food or other commercially valuable products.⁵⁹

⁵⁴ Tex. Tax Code §23.51(1)

⁵⁵ “Principal” or “principally” is defined in the online Merriam-Webster dictionary and thesaurus as “most important, consequential or influential” and the term “primary” is one of several synonyms.

⁵⁶ *Tarrant Appraisal District v. Moore*, 845 S.W.2d 820, 823 (Tex. 1993)

⁵⁷ *Tarrant Appraisal Dist. v. Moore*, 845 S.W.2d at 821

⁵⁸ *Tarrant Appraisal Dist. v. Moore*, 845 S.W.2d at 821

⁵⁹ Tex. Tax Code §23.51(1)

Many ranches offer recreational hunting as a way of earning income and managing a herd of breeding stock. Because hunting is a recreational use, any exotic game ranch devoted solely to hunting animals could never qualify for agricultural appraisal.

A ranch that produces exotic animal products and conducts recreational hunts may or may not qualify for special appraisal. Qualification in such a case depends on which use is primary. A chief appraiser should consider all relevant information to determine the primary use. Relevant questions include:

- Are there physical improvements such as high fences to control the herd?
- Are there stocking levels to justify the investment and ensure a reasonable future income?
- Is there a breeding and herd management procedure that emphasizes commercially valuable products (meat or leather) over recreational products (trophy heads)?
- Is there an active business plan showing herd size, harvesting schedules and harvesting reports?
- Do state or federally approved inspectors supervise slaughter and dressing?

Fish

Chief appraisers should analyze the raising of fish or fish products using the same primary use standards they apply to the keeping and raising of exotic animals. Commercial fish production differs from keeping fish for purely sporting or recreational purposes. This difference is not necessarily related to the scale of the operation, nor is it related to any intent to produce income or make a profit. Raising fish is a qualified agricultural land use when all the elements of a bulk harvest are present. Taking fish by individual line, however, is a recreational activity.

Current Devotion to Agricultural Use

The land must be “currently devoted” to the agricultural use.⁶⁰ The land must qualify on January 1. In the event that agricultural use is not evident on January 1, the chief appraiser should grant productivity valuation if the owner can show evidence of the intent to put the land into agricultural use and that agriculture will be the primary use for the bulk of the calendar year covered by the application.

3. Degree of Intensity Test

To qualify for productivity appraisal for agricultural use, the land must be “currently devoted principally to agricultural use to the degree of intensity generally accepted in the area.”⁶¹ The degree of intensity test is examined in the year the property owner applies for special appraisal and every year thereafter. It does not apply to the years preceding the application for special appraisal.⁶²

The degree of intensity test measures whether land is being farmed or ranched to the extent typical for agricultural operations. To receive a productivity appraisal for agricultural use, the land must be used for an agricultural purpose to the degree of intensity typical in the area. This test is intended to exclude land on which token agricultural use occurs in an effort to obtain tax relief.

The law does not state what degree of intensity qualifies a particular type of land. The chief appraiser must set the standards, by reference to the section below, according to the agricultural practices in effect in the relevant area.⁶³ Because of the variety of soil types, climatic conditions and crops in a state as large as Texas, no single statutory definition could cover all possible uses.

Setting Degree of Intensity Standards

The degree of intensity test measures what the owner is putting into the agricultural enterprise — in time, labor, equipment, management and capital — and compares it with typical levels of these inputs for the same type of enterprise in the area generally.

To set degree of intensity standards, the chief appraiser should analyze each type of commodity production in the area. This analysis should break down the typical steps in producing the commodity and attempt to specify how much time, labor, equipment and so on is typical for each level.

For example, farming dryland cotton requires tilling soil, planting, applying herbicides and harvesting. Tilling soil requires a certain amount of specific labor and equipment, as do each of the other steps. The chief appraiser is to determine the typical levels of intensity involved for each step.

⁶¹ Tex. Tax Code §23.51(1)

⁶² *Riess v. Appraisal District of Williamson County*, 735 S.W.2d 633, 637-638 (Tex. App.—Austin, 1987 writ denied)

⁶³ Tex. Tax Code §23.52(d) and 34 Tex. Admin. Code §9.4001

⁶⁰ Tex. Tax Code §23.51(1)

Similarly, raising beef cattle requires fences, proper management of land for long-term forage, enough animal units to match the land's carrying capacity and a herd management procedure to get the animals to market. What kind of fencing is typical? How frequently is it maintained? How many animal units are typically carried? Degree of intensity specifications address levels of input in detail for each step of the enterprise.

Degree of intensity standards vary from one type of agricultural operation to another. In most cases, property owners must prove that they are following the common production steps for their type of operation and putting in typical amounts of labor, management and investment. An operation is not disqualified simply because it differs from the typical operation. For example, appraisers should not disqualify a labor-intensive farm because most comparable operations are capital-intensive. The total effort finally determines whether a given agricultural operation qualifies, not the level of each separate input.

Defining an Area

The chief appraiser's decision on what constitutes an area defines typical agricultural intensity. The size of the area can vary with the commodity. For a common crop, the chief appraiser may be able to look to farming practices within the county. Rarer crops may require the chief appraiser to consider a multi-county region to decide the typical agricultural inputs. Where the landowner applies practices that are not typical, the chief appraiser should be careful not to discourage experimentation or innovation. The agricultural appraisal laws should not be interpreted to discourage innovations in agricultural production.

4. Time Period Test

The land must have been "devoted principally to agricultural use or to production of timber or forest products" for five of the seven years preceding the application for special appraisal.⁶⁴ The five-out-of-seven-years use requirement is self-explanatory. The land qualifies as long as it was devoted principally to agriculture use or production of timber or forest products in five of the seven years preceding the application for special appraisal. The degree of intensity test does not apply to these preceding years, only the tax year of application and every year thereafter.⁶⁵ A property owner is required to demonstrate a history of primary agricultural use or timber production that

meets the five-year test; presumably the property owner's business records will help establish this history.

For land to qualify for special appraisal as wildlife management use, the land must have qualified for special appraisal as open-space or timberland under Subchapters D or E of Tax Code Chapter 23 at the time the wildlife management use began.⁶⁶ Alternatively, land that is currently devoted principally to wildlife management pursuant to a federal program to protect endangered species or as a federal or state conservation or restoration project qualifies for special appraisal "regardless of the manner in which the land was used in any preceding year."⁶⁷

Cessation of Agricultural Use

There are several circumstances under which the eligibility of land for appraisal as 1-d-1 qualifying property does not end when the land ceases to be devoted principally to agricultural use to the degree of intensity generally accepted in the area.

Drought

The eligibility for 1-d-1 appraisal does not end when the land ceases to be devoted principally to agricultural use to the degree of intensity generally accepted in the area, if:

- a drought declared by the governor creates an agricultural necessity to extend the normal time the land remains out of agricultural production; and
- the owner of the land intends that the use of the land in that manner and to that degree of intensity be resumed when the declared drought ends.⁶⁸

Owner Deployed or Stationed Outside State As Member of Armed Services

The eligibility for open-space appraisal does not end because the land ceases to be devoted principally to agricultural use to the degree of intensity generally accepted in the area if the owner of the land:⁶⁹

- is a member of the U.S. armed services who is deployed or stationed outside this state; and
- intends that the use of the land in that manner and to that degree of intensity be resumed not later than the 180th day

⁶⁴ Tex. Tax Code §23.51(1)

⁶⁵ *Riess v. Appraisal District of Williamson County*, 735 S.W.2d 633, 637-638 (Tex. App.—Austin, 1987 writ denied)

⁶⁶ Tex. Tax Code §23.51(7)(A)

⁶⁷ Tex. Tax Code §23.51(1) and (7)(B) and (C)

⁶⁸ Tex. Tax Code §23.522

⁶⁹ Tex. Tax Code §23.523(a)

after the date the owner ceases to be deployed or stationed outside this state.

The owner must notify the appraisal office in writing not later than the 30th day after the date the owner is deployed or stationed outside this state.⁷⁰

Land with Citrus Production Located in Pest Management Zone

Eligibility for 1-d-1 appraisal does not end because the land ceases to be devoted principally to agricultural use to the degree of intensity generally accepted in the area if:⁷¹

- the land is located in a pest management zone;
- the land is appraised under 1-d-1 primarily on the basis of the production of citrus;
- the cessation of use is caused by the destruction, removal, or treatment of the citrus trees located on the land under the terms of an agreement executed by the owner; and
- the owner follows certain notification requirements.

The owner of the land must execute an agreement with the Texas Citrus Pest and Disease Management Corporation, Inc.; the Texas Commissioner of Agriculture; or the United States Department of Agriculture to destroy, remove, or treat all the citrus trees located on the land that are or could become infested with pests.⁷² This allowed temporary cessation only applies during the period that begins on the date the agreement is executed and ends on the fifth anniversary of that date.⁷³

The landowner must, not later than the 30th day after the date the owner executes an agreement, notify the chief appraiser in writing that the agreement has been executed, submit a copy of the agreement, and notify the chief appraiser that the owner intends to destroy, remove, or treat the citrus trees located on the land under the terms of the agreement.⁷⁴

A change of use of this land is considered to have occurred when the agreement is executed if the owner has not fully

complied with the terms of the agreement on the date the agreement ends.⁷⁵

Oil and Gas Operations on Land

Land's eligibility for 1-d-1 appraisal does not end because a lessee under an oil and gas lease begins conducting oil and gas operations over which the Railroad Commission has jurisdiction on the land if the portion of the land on which oil and gas operations are not being conducted otherwise continues to qualify for appraisal.⁷⁶ Pad sites, oil field roads, electric lines to oil and gas operations, pipelines, and tank batteries are all activities that can be attributed to oil and gas operations that fall under Railroad Commission's jurisdiction. Additional oil and gas operations over which the commission has jurisdiction can be found on its website.

Land Located Within the Boundaries of a City or Town

Land within the boundaries of a city or town often will not qualify for special appraisal. Land located within an incorporated city or town must meet not only the criteria applicable to 1-d-1 land but also must meet one of the following additional criteria:

- The city or town must not provide the land with general services comparable to those provided in other parts of the city or town having similar features and population density.
- The land must have been devoted principally to agricultural use continuously for the preceding five years.
- The land has been devoted principally to agricultural use or to the production of timber or forest products continuously for the preceding five years and the land is used for wildlife management.⁷⁷

Land Owned by a Non-Resident Alien or Foreign Government

Tax Code Section 23.56(2) and (3) state that some kinds of foreign ownership make the land ineligible for 1-d-1 appraisal. Under the law, if the property owner is a non-resident alien (a non-U.S. citizen who does not reside in the United States), the land cannot qualify. Similarly, the law states that a corporation cannot qualify its land if a non-resident alien, a foreign government or both control the corporation.

⁷⁰ Tex. Tax Code §23.523(b)

⁷¹ Tex. Tax Code §23.524(a) and (b)(1), (2) and (3) as added by Acts 2017, 85th Leg., ch. 44

⁷² Tex. Tax Code §23.524(a) and (b)(2)(A) as added by Acts 2017, 85th Leg., ch. 44

⁷³ Tex. Tax Code §23.524(c) as added by Acts 2017, 85th Leg., ch. 44

⁷⁴ Tex. Tax Code §23.524(d) as added by Acts 2017, 85th Leg., ch. 44

⁷⁵ Tex. Tax Code §23.524(e) as added by Acts 2017, 85th Leg., ch. 44

⁷⁶ Tex. Tax Code §23.524(e) as added by Acts 2017, 85th Leg., ch. 365

⁷⁷ Tex. Tax Code §23.56(1)

The Texas Supreme Court held in *HL Farm Corp. v. Self*, 877 S.W.2d 288 (Tex. 1994), that Tax Code Section 23.56(3), which bars foreign corporate and governmental ownership from qualifying land for agricultural appraisal, unconstitutionally violates the Texas Constitution's guarantee of equal protection. Although the Court's opinion did not address the ineligibility of non-resident aliens (Tax Code Section 23.56 (2)), its reasons for holding Subsection (3) of that statute unconstitutional also applies to the non-resident's eligibility for productivity appraisal.

Ecological Laboratories

Land used principally as an ecological laboratory by colleges or universities may qualify for agricultural appraisal.⁷⁸ Qualifying property owners file the ecological laboratory application and follow similar application procedures required to qualify other 1-d-1 land. In determining use, appraisers should apply the same principles they use to identify the primary use of agricultural land.⁷⁹

Waiver of 1-d-1 Appraisal

A property owner may waive the right to 1-d-1 appraisal. A 1-d-1 waiver is effective for 25 years and applies to the land even if ownership changes.⁸⁰ Property owners may file a waiver even if the land does not qualify for 1-d-1 appraisal. Waivers may be filed with some or all of the taxing units that tax the property.⁸¹

A waiver filed before May 1 becomes effective when it is filed. For good cause, the chief appraiser may extend the May 1 deadline for up to 60 days.⁸² Waivers filed after the deadline become effective in the next tax year.⁸³

To revoke a waiver, the property owner must file an application for revocation with the governing body of each taxing unit where the waiver is effective. The taxing unit's governing body must vote to approve the revocation and make a finding that the revocation will not affect any of the taxing unit's debt obligations.⁸⁴

In some cases, a waiver may not be revoked.⁸⁵ The Texas Commission on Environmental Quality is authorized to make rules ensuring that waivers submitted to conservation and reclamation districts are properly and timely executed and are irrevocable. The Texas Transportation Commission has authority to make the rules for waivers submitted to road utility districts within the commission's jurisdiction. Commissioners courts have the authority to approve waivers submitted to road districts created by the commissioner's court.⁸⁶

⁷⁸ Tex. Tax Code §23.51(1)

⁷⁹ Tex. Tax Code §23.51(1)

⁸⁰ Tex. Tax Code §23.20(a), (c) and (d)

⁸¹ Tex. Tax Code §23.20(b) and (c)

⁸² Tex. Tax Code §23.20(c)

⁸³ Tex. Tax Code §23.20(c)

⁸⁴ Tex. Tax Code §23.20(d)

⁸⁵ Tex. Tax Code §23.20(d) and (e)

⁸⁶ Tex. Tax Code §23.20(d)

Application Process for 1-d-1 Appraisal

A property owner claiming his or her land is eligible for agricultural appraisal must complete and file a valid application with the chief appraiser of the county where the land is located.⁸⁷ To be valid, the application for agricultural valuation must contain the information necessary for the appraisal district to determine the validity of the claim.⁸⁸

In applying for special appraisal, the property owner is required to use the appraisal district's form.⁸⁹ The appraisal district is to use PTAD's model form or a form that varies somewhat in format and wording, but contains information which is in substantial compliance with the model form.⁹⁰ The chief appraiser can require an applicant to supply additional information if the initial application does not contain all the information necessary to rule on that particular application.⁹¹

Landowners must file applications with the chief appraiser in the appraisal district where the land is located. Taxpayers whose land is appraised by more than one appraisal district must file an application in each appraisal district.⁹²

A property owner may file a single application form covering all tracts within an appraisal district. The property owner does not have to file a separate form for each tract if he or she provides sufficient information to show that all tracts qualify under the law.

The chief appraiser may encourage the property owner to file a single form if the property owner is farming or ranching several tracts as a unit. The chief appraiser is to consider the entire agricultural operation as a unit, not separately, with respect to the

activities on each individual parcel. The single application form notifies the appraisal district of the unity of operation.

Application Forms

The form to apply for 1-d-1 special appraisal must:

- allow a claimant who has previously been allowed 1-d-1 appraisal to indicate that previously reported information has not changed and only supply information not previously reported; and
- include a space for the property owner to state his or her date of birth. Failure to provide date of birth, however, does not affect eligibility for appraisal under 1-d-1.⁹³

The general PTAD model Form 50-129 *Application for 1-d-1 (Open-Space) Agricultural Use Appraisal* is available on the Comptroller's website.

In addition to the general form, PTAD has three other model forms on the Comptroller's website that may be used for requests for 1-d-1 special appraisal, for timberland use or use as an ecological laboratory. These forms are:

- Form 50-166 *Application for Open-Space Land Appraisal for Ecological Laboratories*
- Form 50-167 *Application for 1-d-1 (Open-Space) Timberland Appraisal*
- Form 50-281 *Application for Restricted-Use Timberland Appraisal*

Filing Deadline and Extension

The deadline for filing applications is before May 1, meaning the application form must be postmarked April 30 or filed no later than midnight April 30.⁹⁴ The chief appraiser may extend the filing deadline at the property owner's request in

⁸⁷ Tex. Tax Code §23.54(a)

⁸⁸ Tex. Tax Code §23.54(b)

⁸⁹ Tex. Tax Code §23.54(b)(1) and 34 Tex. Admin. Code §9.402(a)

⁹⁰ 34 Tex. Admin. Code §9.402(a)

⁹¹ Tex. Tax Code §§23.54(b)(2); 23.57(a) and (b); and *Cordillera Ranch, Ltd. v. Kendall County Appraisal District*, 136 S.W.3d 249, 254 (Tex. App.—San Antonio, 2004) (burden of proof on applicant to clearly show entitled to special appraisal)

⁹² Tex. Tax Code §23.54(a)

⁹³ Tex. Tax Code §23.54(c)

⁹⁴ Tex. Tax Code §§1.08 and 23.54(d)

writing, for good cause, but not for more than 60 days.⁹⁵ If the timely request for extension is granted, a late application penalty should not be imposed.

Tax Code Chapter 23 does not define good cause to excuse late applications for special appraisal. Under Tax Code Section 41.45 regarding protest hearings, however, good cause to excuse a property owner's failure to appear at an appraisal review board hearing "means a reason that includes an error or mistake that: (1) was not intentional or the result of conscious indifference; and (2) will not cause undue delay or other injury to the person authorized to extend the deadline or grant a rescheduling."⁹⁶

Good cause also is commonly understood as circumstances the applicant could not control, such as being sick or injured and not able to transact normal business for a period that effectively prevents filing on time. Being out of town on business or vacation or simply forgetting about the filing deadline typically is not sufficient to show good cause.

Late Applications and 10 Percent Penalty

If the deadline is missed, the property owner may submit a late application for special appraisal if it is filed before the appraisal review board approves the appraisal records for that year (usually in July).⁹⁷ If special appraisal is approved, the property owner is liable for a penalty for this late application equal to 10 percent of the difference between the tax if imposed at market value and the tax imposed at the agricultural productivity value.⁹⁸ If the chief appraiser extended the application filing deadline for the property owner under Tax Code Section 23.54(d), this penalty does not apply.

The chief appraiser must note the penalty in the appraisal records and send the property owner written notice explaining the reasons for imposing the penalty.⁹⁹ The tax assessor of the taxing unit adds the penalty amount to the tax bill and collects the penalty along with the annual tax payment.¹⁰⁰ The amount of the penalty constitutes a lien against the property against which the penalty is imposed, as if it were a tax, and accrues penalty and interest in the same manner as a delinquent tax.¹⁰¹

Failure to File the Application Form

If a person does not file a valid application before the appraisal review board approves the appraisal record, the land is ineligible for agricultural appraisal in that tax year.¹⁰²

One-Time Application

Once the application is filed and approved under 1-d-1 requirements, the land continues to receive agricultural appraisal every year without a new application unless the ownership changes, the land's eligibility ends or the chief appraiser requires a new application.¹⁰³ If the chief appraiser has good cause to believe that land no longer is eligible for special appraisal, the chief appraiser may require a new application to confirm that the land currently is eligible by delivering to the property owner written notice that a new application is required along with the application form itself.¹⁰⁴

Penalty for Failure to Provide Notice of Change in Category or Class Use or Eligibility

Tax Code Section 23.54(h) imposes a duty on property owners who receive productivity appraisal on their land to notify the appraisal district in writing before May 1 "after a change in the category of agricultural use" occurs or "after eligibility for appraisal under [Tax Code Chapter 23, Subchapter D] ends." A "penalty is imposed on the property" for failure to notify the appraisal district as required "equal to 10 percent of the difference between the taxes imposed on the property in each year it is erroneously allowed appraisal under [Tax Code Chapter 23, Subchapter D] and the taxes that would otherwise have been imposed."¹⁰⁵

Change in Category or Class Use

A category of agricultural use is defined as "the value classification of land considering the agricultural use to which the land is principally devoted."¹⁰⁶ Although the Tax Code refers to land categories, this manual follows common usage and designates them land classes.

Tax Code Section 23.51(3) further provides:

The chief appraiser shall determine the categories into which land in the appraisal district is classified.

⁹⁵ Tex. Tax Code §23.54(d)

⁹⁶ Tex. Tax Code §41.45(e-2)

⁹⁷ Tex. Tax Code §§23.54(a) and 41.12

⁹⁸ Tex. Tax Code §23.541(b)

⁹⁹ Tex. Tax Code §23.541(c)

¹⁰⁰ Tex. Tax Code §23.541(d)

¹⁰¹ Tex. Tax Code §23.541(d)

¹⁰² Tex. Tax Code §§23.54(e) and 23.541

¹⁰³ Tex. Tax Code §23.54(e)

¹⁰⁴ Tex. Tax Code §23.54(e)

¹⁰⁵ Tex. Tax Code §23.54(h)

¹⁰⁶ Tex. Tax Code §23.51(3)

In classifying land according to categories, the chief appraiser shall distinguish between irrigated cropland, dry cropland, improved pasture, native pasture, orchard, and waste. The chief appraiser may establish additional categories. The chief appraiser shall further divide each category according to soil type, soil capability, irrigation, general topography, geographical factors, and other factors that influence the productive capacity of the category. The chief appraiser shall obtain information from the Texas Agricultural Extension Service [now referred to as the Texas A&M AgriLife Extension Service], the Natural Resources Conservation Service of the United States Department of Agriculture, and other recognized agricultural sources for the purposes of determining the categories of land existing in the appraisal district.

For example, assume a property owner fails to inform the appraisal district for five years that he or she converted the use of the land from dry cropland to irrigated cropland. A penalty equal to 10 percent of the difference between the taxes imposed based on the productivity appraisal of the land as dry cropland and the taxes that would have been imposed based on the land's productivity value as irrigated cropland may be imposed for each of the five years after the conversion.

Penalty May Be Treated as a Delinquent Tax

Tax Code Section 23.54(i) explains the impact of these penalties:

The chief appraiser shall make an entry in the appraisal records for the property against which the penalty is imposed indicating liability for the penalty and shall deliver a written notice of imposition of the penalty to the person who owns the property. The notice shall include a brief explanation of the procedures for protesting the imposition of the penalty. The assessor for each taxing unit that imposed taxes on the property on the basis of appraisal under this subchapter [Tax Code Chapter 23, Subchapter D] shall add the amount of the penalty to the unit's tax bill for taxes on the property against which the penalty is imposed. The penalty shall be collected at the same time and in the same manner as the taxes on the property against which the penalty is imposed. The amount of the penalty constitutes a lien on the property against which the penalty is imposed and accrues penalty and interest in the same manner as a delinquent tax.

Erroneously Granted Special Appraisal

In those cases where the chief appraiser discovers that special appraisal "has been erroneously allowed in any one of the five preceding years because of failure of the person whose land was allowed appraisal under [Tax Code Chapter 23, Subchapter D] to give notice that its eligibility has ended, he [or she] shall add the difference between the appraised value of the land under [Tax Code Chapter 23, Subchapter D] and the market value of the land to the appraisal roll as provided by [Tax Code] Section 25.21 of this code for other property that escapes taxation."¹⁰⁷

For example, if a farmer reduces the scale of operations and no longer meets the degree of intensity requirements, the land will not be eligible for agricultural appraisal. If the landowner fails to notify the appraisal district and therefore receives agricultural appraisal, the land is back-assessed. For each year in question (not to exceed five years), the owner must pay the difference between the taxes based on the agricultural valuation and the taxes based on market value.¹⁰⁸ The owner also must pay the 10 percent penalty on that difference.¹⁰⁹ Since the land has not been taken completely out of agricultural use, it is not subject to rollback taxes.

Chief Appraiser's Action

The chief appraiser must review each application and decide whether to:

- approve it and grant agricultural appraisal;
- disapprove it and ask for more information; or
- deny the application.¹¹⁰

The chief appraiser must determine, in the exercise of his or her independent professional judgment, the validity of all timely filed applications. The chief appraiser must rule on all late-filed applications before the appraisal review board approves the records for the year.¹¹¹ If an application is denied, the chief appraiser must notify the applicant in writing within five days.¹¹² This notice must explain the reasons for the denial and the procedures for protesting it.¹¹³ Notice must be sent by certified mail.¹¹⁴

¹⁰⁷ Tex. Tax Code §23.54(j)

¹⁰⁸ Tex. Tax Code §23.54(j)

¹⁰⁹ Tex. Tax Code §23.54(h)

¹¹⁰ Tex. Tax Code §23.57(a)(1), (2), (3)

¹¹¹ Tex. Tax Code §§23.541(a) and 23.57(c)

¹¹² Tex. Tax Code §23.57(d)

¹¹³ Tex. Tax Code §23.57(d)

¹¹⁴ Tex. Tax Code §1.07(d)

The appraisal records are turned over to the appraisal district's appraisal review board for review and determination of protests.¹¹⁵ The appraisal review board is appointed to act independently of the chief appraiser, and to make fair and impartial determinations. The deadline for the chief appraiser to submit the appraisal records to the appraisal review board is May 15 or as soon afterward as is practicable.¹¹⁶

One of the duties of the appraisal review board is to determine whether land is improperly granted special appraisal.¹¹⁷ Property owners who were denied agricultural appraisal may file a protest with the appraisal review board.¹¹⁸ Taxing units that believe special appraisal was erroneously granted to any property owner may seek to remove that special appraisal by filing a challenge with the appraisal review board.¹¹⁹

Additional Information

The chief appraiser may request additional information to determine whether a property qualifies for 1-d-1 appraisal¹²⁰ but only additional information that is necessary to determine whether the land qualifies. The applicant must provide additional information within 30 days after the date of the request or the application will be denied.¹²¹ If there is good cause, the chief appraiser may extend the deadline to allow additional information, but for no more than 15 days.¹²²

Information contained in income statements, income tax returns, land lease rates and lease agreements is not necessary to determine whether the land qualifies. If the chief appraiser asks a property owner for this type of information, the request should clearly state that the property owner is not required to give the information to qualify for 1-d-1 appraisal.

Summary of the 1-d-1 Application Process

The property owner must file a completed application to qualify the land for agricultural appraisal.

- An application must be filed in every appraisal district where the owner's property is located.¹²³

- Where the applicant owns several parcels of property within one appraisal district, he or she may file a single application form covering all the parcels.
- An application form must be filed before the May 1 deadline.¹²⁴
- The chief appraiser may extend the application deadline up to 60 days. The applicant must request an extension before the deadline and show good cause for extending the deadline.¹²⁵
- Good cause is generally a reason not within the applicant's control that prevents timely filing.
- Late applications may be filed any time before the appraisal review board approves records for that year, subject to a penalty.¹²⁶
- Failure to file an application before the records are approved for the year makes the land ineligible for agricultural appraisal in that tax year.¹²⁷
- After the land is approved for agricultural appraisal, no new or additional applications are required unless the ownership changes, the land's eligibility ends or the chief appraiser requests one.¹²⁸
- Failure to notify the appraisal district of a change in the category or class of agricultural use or of the end of eligibility subjects the property to a penalty under Tax Code Section 23.54(h).¹²⁹
- If the land is taken entirely out of agricultural use, the land is ineligible for agricultural appraisal.¹³⁰
- If the property erroneously receives agricultural appraisal, it is subject to back assessment and a penalty.¹³¹
- When the chief appraiser receives an application, he or she must review it and take one of the following three actions: approve it, disapprove it and ask for additional information or deny the application.¹³²
- The chief appraiser must notify the applicant in writing of denial of an application and explain the reasons for the denial.¹³³ Notice must be sent by certified mail.¹³⁴

¹¹⁵ Tex. Tax Code §23.57(c)

¹¹⁶ Tex. Tax Code §25.22(a)

¹¹⁷ Tex. Tax Code §41.01(a)(5)

¹¹⁸ Tex. Tax Code §41.41(a)(5)

¹¹⁹ Tex. Tax Code §41.03(a)(4)

¹²⁰ Tex. Tax Code §23.57(b)

¹²¹ Tex. Tax Code §23.57(b)

¹²² Tex. Tax Code §23.57(b)

¹²³ Tex. Tax Code §§6.01(b), 6.02(a) and 23.54(a)

¹²⁴ Tex. Tax Code §23.54(d)

¹²⁵ Tex. Tax Code §23.54(d)

¹²⁶ Tex. Tax Code §23.541

¹²⁷ Tex. Tax Code §§23.54(e) and 23.541

¹²⁸ Tex. Tax Code §23.54(e)

¹²⁹ Tex. Tax Code §23.54(h)

¹³⁰ Tex. Tax Code §§23.51(1) and (2) and 23.52

¹³¹ Tex. Tax Code §23.54(h) and (j)

¹³² Tex. Tax Code §23.57

¹³³ Tex. Tax Code §23.57(d)

¹³⁴ Tex. Tax Code §1.07(d)

Agricultural Appraisal Under Section 1-d-1

Rural land's market value is typically the cash or cash equivalent price at which land would sell from a willing seller to a willing buyer in an arm's-length transaction. Three different factors influence land's value:

- **Production** – Buyers and sellers in the production market are interested in the land's ability to produce agricultural income.
- **Investment** – Buyers and sellers in the investment market are primarily interested in land's potential appreciation in value. The buyer purchases the land in order to resell or develop it.
- **Consumption** – Those in the consumption market are primarily interested in the satisfaction of owning land. The buyer purchases the land for a weekend home, a hobby farm or simply for pride of ownership.

The price that land could command in any or all of these markets influences its market value. The agricultural use value of land arises only from its agricultural production.

In estimating productivity value, the appraiser considers only those factors associated with the land's capacity to produce marketable agricultural products. The appraiser ignores the possibility that the land may command a higher price on the investment or consumption market. Neither of these market influences can be considered.

A market value appraisal of rural land might consider all three approaches to value: cost, market and income. A productivity appraisal, however, uses only a modified income approach and converts an estimate of the property's income into an estimate of the property's value. The appraiser first estimates the property's annual net income, then divides the income by a capitalization rate. The result is an estimate of the property's value.

Full income-approach appraisal can be considerably more complicated than this description. In productivity appraisal, however, the process is relatively simple because the law sets the capitalization rate and the procedure for projecting income.

By law, the capitalization rate is the greater of 10 percent or the interest rate specified by the Farm Credit Bank of Texas or its successor on Dec. 31 of the preceding year, plus 2 1/2 percentage points.¹³⁵ The capitalization rate is published and provided to the appraisal districts as part of the agricultural information available on PTAD's website.

The law requires the appraiser to base the annual net estimate – gross income minus expenses – on the five-year period preceding the year before the year of the appraisal.¹³⁶ Income received from hunting or recreational leases on qualified open-space land (other than wildlife management) also is included in net to land calculations.¹³⁷ For example, an appraisal in 2018 was based on income from 2016 (two years before the appraisal), 2015, 2014, 2013 and 2012.

The appraiser determines the net income the land would have generated by a prudent owner during each year of the five-year period. The appraiser then averages the annual net incomes for those years. The resulting average (net to land) is the amount capitalized in the appraisal.¹³⁸

From a practical standpoint, tax appraisers cannot appraise each individual tract of land. Instead, the appraisal office must develop a system of appraisal that allows the office to value a large number of tracts. To put an effective productivity appraisal system into action, the appraiser must complete the five steps shown in **Exhibit 3**.

¹³⁵ Tex. Tax Code §23.53

¹³⁶ Tex. Tax Code §23.51(4)

¹³⁷ Tex. Tax Code §23.51(4)

¹³⁸ Tex. Tax Code §23.51(4) and (5)

EXHIBIT 3

Effective Productivity Appraisal System

Five Steps to an Effective Productivity Appraisal System

1. Develop a land classification system.
2. Estimate the net to land per acre for each class or subclass.
3. Divide the class' net to land by the year's capitalization rate to find the value per acre in each class.
4. Classify all qualified agricultural land according to the land classification system.
5. Use the schedule to calculate the productivity value of individual parcels of land.

1. **Develop a land classification system.** Such a system groups land into principal types of agricultural uses. In most instances, such a system will recognize at least six broad agricultural use classes:¹³⁹
 - a) Irrigated cropland
 - b) Dryland cropland
 - c) Orchard
 - d) Improved pastureland
 - e) Native pastureland
 - f) Wasteland

Not all counties have all classes; some counties may have to add classes or subclasses.¹⁴⁰ Appraisal districts might, for example, need to develop a class for unusual or intensive land uses such as truck farming, egg or commercial poultry production. Other intensive uses may warrant the establishment of additional land classes. In many cases, the chief appraiser must split broad classes into subclasses.¹⁴¹

2. **Estimate the net to land per acre for each class or subclass.** The annual net income for each year of the five-year period preceding the year before the year of appraisal is averaged for the net to land estimate.¹⁴²
3. **Divide the class' net to land by the year's capitalization rate to find the value per acre in each class.** These values form a productivity appraisal schedule.¹⁴³
4. **Classify all qualified agricultural land according to the land classification system.**
5. **Use the schedule to calculate the productivity value of individual parcels of land.** Typically, the productivity value schedule will show a value per acre for each land class. For any given parcel of land, the number of acres times the per-acre value determines the agricultural use value.

In addition, the law requires the chief appraiser to estimate and record the market value of property appraised under 1-d

and 1-d-1.¹⁴⁴ The system must also provide for a market value appraisal according to generally accepted appraisal methods and techniques. Appraisers should follow generally accepted appraisal principles in determining the market value of rural land.¹⁴⁵ Two sources of information include the International Association of Assessing Officers' *Property Assessment Valuation, Third Edition* and the Appraisal Institute's *The Appraisal of Real Estate, Fourteenth Edition*.

Types and Sources of Information

The chief appraiser is solely responsible, in the exercise of his or her independent professional judgment, for establishing land classes¹⁴⁶ and determining the average annual net to land for each class of qualified open-space land eligible for special appraisal.¹⁴⁷ To do so, he or she needs to obtain information from reliable sources about each of the variables to be used in his or her net to land productivity calculations. Shared lease and/or cash lease data pertaining to yields, income and expenses should be gathered from reliable federal, state and local sources such as those listed in this section. All of the data gathered is to be analyzed for use in the net to land productivity calculations by reference to a typical agricultural operation in the county – that of “an owner using ordinary prudence in the management of the land and the farm crops or livestock produced or supported on the land.”¹⁴⁸

The chief appraiser bears ultimate responsibility for the land classes and the net to land estimates¹⁴⁹ (the appraisal of all qualified agricultural land in the county). Under the Uniform Standards of Professional Appraisal Practice (USPAP) Record Keeping Rule, the chief appraiser is required to prepare and maintain a workfile for each appraisal assignment. According to this rule, the “workfile must include . . . all other data, information, and documentation necessary to support the appraiser's opinions and conclusions and to show compliance with USPAP, or references to the location(s) of such other data, information, and documentation.”¹⁵⁰ Copies of publicly available data collected for income and expenses, for example, as well as survey responses and notes or minutes from meetings detailing similar information provided and upon which the chief appraiser relies, is to be included in the chief appraiser's qualified ag land appraisal workfile. The following are readily

¹³⁹ Tex. Tax Code §23.51(3)

¹⁴⁰ Tex. Tax Code §23.51(3)

¹⁴¹ Tex. Tax Code §23.51(3)

¹⁴² Tex. Tax Code §23.51(4)

¹⁴³ Tex. Tax Code §23.51(5)

¹⁴⁴ Tex. Tax Code §23.52(a) and (e)

¹⁴⁵ Tex. Tax Code §23.01(b)

¹⁴⁶ Tex. Tax Code §§23.51(3) and 23.52(b)

¹⁴⁷ Tex. Tax Code §§23.51(4) and 23.52(b)

¹⁴⁸ Tex. Tax Code §23.51(4)

¹⁴⁹ Tex. Tax Code §§23.51(3),(4) and 23.52(b)

¹⁵⁰ Record Keeping Rule, USPAP Edition 2018-2019, at p. 10

available sources of information which provide data for use in making these appraisal determinations.

Farm Service Agency

The federal Farm Service Agency (FSA), an agency of the United States Department of Agriculture (USDA), has local agents assigned to each county in Texas with offices in a majority of these counties along with Farm Loan offices throughout the state. [Local FSA agents](#) typically are a source of information on types of crops produced, planting and production practices, crop yields, commodity prices, and government payment amounts or assistance program payments specific to the area.

County FSA committee members, local farmers elected by their peers to serve on the committee, should also be a source of information on yields, conservation programs, incentives, indemnity and disaster payments for local commodities as well as shared lease and cash lease terms.

National Agricultural Statistics Service

The federal National Agricultural Statistics Service (NASS), an agency of the USDA, conducts monthly and annual surveys and prepares reports covering virtually every aspect of U.S. agriculture. Downloadable information, including number of acres planted and harvested for each crop and the average county yields specific to Texas counties, can be found on their [Texas Statistics](#) homepage. NASS also conducts the Agriculture Census every five years which has relevant information on ranch sizes and livestock.

NASS computes the average yield per acre, per crop. Its numbers do not break out yields received from richer or poorer land, nor do they reflect other variations that influence yields, such as the level of water application on irrigated lands. Since appraisers must estimate yields based on a prudent, typical operation, they generally need to supplement NASS estimates with further information.

Information on prices paid for various commodities on a regional or state-wide basis also is available. Again, this information should only be used if the values it shows are typical for the specific area.

Natural Resources Conservation Service

The federal Natural Resources Conservation Service (NRCS), an agency of the USDA, has comprehensive information related to the productive capacity of soils. This information is helpful

in establishing land classes and subclasses. In most counties, the NRCS can provide detailed [soil surveys](#) that will also assist in classifying individual parcels of land. [NRCS personnel](#) are familiar with typical crops, yields, carrying capacities for livestock, production practices and typical lease arrangements.

Agricultural Credit Associations

Agricultural Credit Associations (ACAs) are institutions of the Farm Credit System (FCS) that have direct lending authority to make short-, intermediate- and long-term loans to agricultural producers, rural homeowners and some farm-related businesses. ACAs generally serve fairly large areas, but may have information for specific counties. The ACA may provide information about crop yields, production practices and leasing rates or shared lease and cash lease terms. The [FCS Institution Directory](#) contains information about each institution and its chartered territory.

Other local lenders who make agricultural loans may be willing to furnish information useful in determining net to land values.

Texas A&M AgriLife Extension Service

Agricultural economists for the Texas A&M AgriLife Extension Service (AgriLife Extension), a member of The Texas A&M University System, each year develop budgets for various crops for each of the 12 agricultural regions in Texas. These budgets are not designed to be a sole source of information when calculating net to land values; however, they are a valid starting point and can be tailored to local conditions and practices. The [budgets](#), as well as other information, may be downloaded for each Extension District from the AgriLife Extension's Department of Agricultural Economics' website. AgriLife Extension has a large network of 250 [county Extension offices](#) throughout the state of Texas.

In addition, the AgriLife Extension periodically conducts and publishes a [custom rate survey](#) which includes rates on tractor rentals, tillage operations, planting or row-crop field operations, application of fertilizer and chemicals, cotton harvesting, peanut harvesting, hauling and drying, combining and hauling grains, haying and silage operations, land preparation, brush control, various land improvements, and miscellaneous livestock operations.

Universities and Colleges

Local college and university agriculture departments may have information not available from other sources. Through

research grants, personnel conduct various studies that address local agricultural practices.

Agricultural Advisory Board

The Agricultural Advisory Board's purpose is to advise the chief appraiser on the appraisal and use of agricultural land. The chief appraiser is required to appoint, with the advice and consent of the board of directors, an agricultural advisory board composed of at least three members. Appraisal district employees, appraisal review board members and members of the board of directors of the appraisal district are ineligible to serve on the agricultural advisory board.¹⁵¹

The Tax Code requires the advisory board to meet at the call of the chief appraiser at least once a year. Board members are not entitled to compensation.¹⁵²

The board members must have been residents of the appraisal district for at least five years and must own property in the appraisal district that is qualified for appraisal under Tax Code Chapter 23, Subchapters C, D, E or H.¹⁵³

Other Sources

Local agricultural suppliers and producers often have information useful to the appraiser. In addition, chief appraisers may wish to develop surveys to send to the local agricultural community, including agricultural landowners. These surveys may be used as original data and/or to verify data received from federal and state agencies. Chief appraisers may also seek additional sources to address specific issues related to their particular county.

Establishing Land Classes

Land classes should be based on the appraisal district's most common land uses. The Tax Code lists six typical classes of land: irrigated cropland, dry cropland, improved pasture, native pasture, orchard and waste.¹⁵⁴ Unusual or intensive land uses such as truck farming, egg production or mass-produced poultry may require a separate land class. Other intensive uses may warrant the establishment of additional land classes. Although the Tax Code refers to land categories, this manual follows common usage and designates them land classes.

Chief appraisers must often divide broad classes into subclasses based on factors that influence productive capacity. A particular land class may include land with different soil types, soil capacity, irrigation levels, topography or geographical factors.¹⁵⁵ These differences may affect productivity enough to define subclasses.

For record-keeping and ease of identification, the simplest way to name each subclass is to attach a number or letter to the class name. For example, if the class is irrigated cropland and there are four subclasses based on differences in soil types, each different soil type could be designated as Irrigated Cropland I, Irrigated Cropland II, etc.

From a practical standpoint, chief appraisers cannot develop a classification system that reflects all minor differences in productivity. Appraisers should use common sense in subdividing classes. A few acres of land devoted to a specific use will not define a class or subclass. These few acres should be placed in a more typical use-class with the same or similar productivity.

Chief appraisers should obtain information from the AgriLife Extension, NRCS, and other recognized agricultural sources to determine land classes.¹⁵⁶

Where available, soil surveys can be extremely helpful in establishing classes and subclasses. Surveys can reveal the major soil types. Grouping soil types to reflect a reasonable range of productive capacities will limit the number of subclasses established.

The slope of the land often influences productivity as much as the soil type. The same soil type may have differing productive capacities under different land slope conditions. This is especially true on irrigated cropland. Appraisers must analyze factors and combine them in a classification system. For example, the system might classify a given soil type as Irrigated Cropland I if it has a Class A slope, but Irrigated Cropland II if it has a Class B slope.

The appraiser may base subclasses for pastureland on typical stocking rates or carrying capacity. Some native pastureland, for example, may have a soil type that produces more feed and can support more livestock than the same native pastureland with a different soil type. As is the case with cropland,

¹⁵¹ Tex. Tax Code §6.12

¹⁵² Tex. Tax Code §6.12

¹⁵³ Tex. Tax Code §6.12

¹⁵⁴ Tex. Tax Code §23.51(3)

¹⁵⁵ Tex. Tax Code §25.51(3)

¹⁵⁶ Tex. Tax Code §23.51(3)

appraisal districts must establish a reasonable grouping of major differences in carrying capacities or stocking rates. The classification system cannot account for minor differences. An example of development of a classification system and values for agricultural land can be found in **Appendix C**.

Determining Net to Land Values

Net to land value is the average annual net income that a class of land would likely generate over a five-year period.¹⁵⁷ Appraisers are required to determine net to land value using a cash or share lease method or whatever lease arrangement is typical and prudent in the area for that land class.¹⁵⁸

Under a lease method, net to land is the rent that would be due to the property owner under a cash lease, share lease or other typical lease arrangement, less expenses typically paid by the owner. In a cash lease, the rent is a fixed amount. In a share lease, the rent is a share of the gross receipts for the year, less a share of certain expenses.

Cash Lease Method

A cash lease (cash rent) is an agreement between a landowner and tenant to lease for a fixed cash payment. This payment is usually in terms of dollars per acre for a period of one year. When the landowner leases on a cash basis, he or she ordinarily has no labor or operating capital costs. If the landowner has no expenses relating to the agricultural use of the land, the cash lease payment is virtually equivalent to a return on the land. If the prudent owner typically does pay some expenses, appraisers should deduct them from the lease payment to determine net to land.

Terms of Lease

The cash lease used for a specific land class should represent the payment to a prudent property owner. In some cases, the most common or typical lease agreement within an area may not be prudent for either the property owner or tenant. This situation may occur when the most common lease agreements are between family members.

The property owner's expenses typically include certain fixed costs such as property taxes; depreciation on irrigation equipment if the property owner also owns the equipment; depreciation of fences and typical structural improvements; and water

depletion. Appraisers should calculate property taxes on the basis of agricultural use appraisal rather than market appraisal.

Additional Costs

The property owner typically incurs a cost of management, covering such activities as finding a tenant, keeping records and making sure that the tenant meets the terms of the contract agreement. In many cases, the cost of management is insignificant when calculated on a per-acre basis.

Although the typical cash lease landlord has few or no expenses, some leases may require him or her to pay additional expenses. Appraisers should adjust these leases to typical terms before using them to estimate typical net lease payments. **Exhibit 4** shows the steps in a typical cash lease approach.

EXHIBIT 4

Cash Lease Method

Typical Steps in the Cash Lease Method

Step 1: Gather cash lease rates from knowledgeable persons in the area.

This data is not always readily available. Do not use leases of an unusual nature; long-term leases with options to buy; or leases between family members. Leases of these types are not considered normal arm's length transactions and may not indicate the actual income-producing capacity of the soil.

Step 2: Gather as many leases as possible for each year of the five-year period.

In most cases, at least four to six leases per year are needed to develop a reliable net to land value for a specific land class. Typical leases usually fall within a narrow dollar range. The appraiser must choose one value to serve as a typical lease rate for the year.

For example, assume you discover four grazing leases and four hunting leases for native pastureland. The grazing lease payments are \$4.50 per acre, \$4.75 per acre, \$4.75 per acre and \$5.00 per acre for each year, respectively. The four hunting lease rates are \$3.50 per acre, \$3.50 per acre, \$3.50 per acre and \$3.25 per acre for each year, respectively.

You should not assume that the typical lease rate is an average of the lease rates collected. The typical lease rate is the most common or most likely lease rate. In the previous example, \$8.25 per acre would appear to be typical. This lease rate is based on a \$4.75 per acre grazing lease and a \$3.50 per acre hunting lease.

Use the same procedure to establish a typical lease rate for each of the remaining four years of the five-year qualifying period.

If a lease provides for an unusual owner expense, such as maintaining fences, adjust the payment by subtracting that expense. For example, suppose that fence maintenance in one lease costs the owner 40 cents per acre per year. The nominal lease payment is \$4.75 per acre. After adjustment, the payment is \$4.35 per acre.

Lease rates for grazing land are often a function of livestock carrying capacity. Appraisers measure livestock carrying capacity by the number of acres required to carry or support one animal unit. An animal unit is a standard for comparing different types of livestock that equals 1,000 pounds of live weight. A cow and its calf constitute one animal unit, as do six sheep or seven goats. When carrying capacity varies in the jurisdiction because of soils, topography or other factors, subclasses under the native pasture class should reflect the differences.

¹⁵⁷ Tex. Tax Code §23.51(4)

¹⁵⁸ Tex. Tax Code §23.51(4)

EXHIBIT 4

Cash Lease Method (cont.)

Typical Steps in the Cash Lease Method

Step 3: Determine typical landowner expenses.

In the example above, assume that the landowner has a cost of 50 cents per acre per year for depreciation of fences and 47 to 52 cents per acre per year for property taxes (based on agricultural appraisal).

Calculate the depreciation cost of fences by dividing the cost of the fences on a typical operation by their life expectancy, then dividing by the typical number of acres. Half of the cost of property line fences is attributed to the typical parcel; the other half of the cost is attributed to the land across the fences.

The appraiser should determine typical expenses according to actual practice in the area. Isolated unusual expenses in a single lease (like fence maintenance) are handled by adjusting the individual lease. If fence maintenance appears to be a typical expense, do not adjust the individual lease rates. Instead, include the fence expense as typical and subtract it from the typical lease rate.

Step 4: Calculate the net to land value.

For each of the five base years, subtract the expenses from the typical lease rate. The remainder is the net to land value. Average the net to land values for the five years to obtain the overall net to land value for the land class for the five-year period (Appendix D, Figure 2). Divide this value by the capitalization rate to obtain the agricultural use value for the class.

Sound net to land values for one subclass can often be adjusted to fit other subclasses. For example, land with a carrying capacity of one animal unit per 20 acres can support twice as many animals as land with a carrying capacity of one animal unit per 40 acres. If the annual payment is \$3.00 per acre for the better land, one would reasonably expect the annual payment to be \$1.50, or half as much, for land that can support half as many animals.

In many areas agricultural land is also leased for hunting and other recreational purposes. The calculation of net to land value should include income from hunting leases in areas where native pasture and timberland are commercially leased for hunting or where a prudent manager would supplement his or her agricultural income with hunting lease income (e.g., where native pasture is also leased for hunting).

Like other lease income, hunting income should be net income. You should deduct typical owner's expenses from total income. However, items like property taxes and depreciation or any expenses attributable to both leases should only be deducted once. Do not subtract them from both hunting and agricultural income.

In summary, the net to land value is the typical cash lease rate minus the typical expenses incurred by the landowner. **Appendix D**, Figure 1 provides a hypothetical example of the cash lease method.

Share Lease Method

Appraisers must estimate net to land values from share leases and cash leases depending on what type is typical and prudent in the area. Under a share lease, the landowner usually pays a share of production expenses and receives a prearranged share of the gross receipts rather than a fixed dollar amount. Share leases may vary by location and usually vary by crop.

When choosing the sample of share leases to develop a typical share lease amount for specific land classes, appraisers should select only leases with terms under which a prudent landowner would lease the land; lease terms may vary. Selecting the typical lease is a matter of judgment and careful investigation, not mathematical averaging. The most common or typical lease agreement within an area may not be a prudent lease agreement, especially when the most common lease agreements are between family members or are not at arm's length.

The terms of each lease must be analyzed. For example, suppose one lease grants the property owner 40 percent of income, while others in the same land class grant the owner 33 percent. After investigation, the appraiser discovers that the property owner receiving the higher percentage provides tenants with irrigation equipment that other property owners do not supply. Subtracting annual depreciation and maintenance expense on the irrigation equipment from the property owner's 40 percent share brings his or her net income down to the same 33 percent the other property owners are making.

This example shows the need to analyze lease terms. The 40 percent return only seemed higher than the 33 percent return. Returns may also seem higher or lower when a lease requires the property owner to pay a greater or lesser share of expenses or to pay expenses that other property owners in the area do not. The appraiser must investigate the terms of the leases he or she chooses to rely upon and use careful judgment in making those choices.

Calculating Net to Land Values

To calculate net to land values for share leases, appraisers need the following information:

- **Typical crops** – Determine the principal and typical crops grown in the area for the land class under consideration.
- **Lease agreements** – Determine the typical lease agreement between property owner and tenant. What is the property owner's percentage of gross income and expenses? What types of expenses are typical? For example, in a common share lease agreement for dryland grain sorghum, the property owner receives one-third of the gross receipts and pays one-third of the fertilizer, harvest and hauling costs (**Appendix D**, Figures 3 and 4).
- **Yield estimates** – Determine the typical yield for the crops and land class being considered. Calculate the estimated yield per planted acre. If a portion of the area's crop is

EXHIBIT 5
Methods to Convert Yield

Methods
Method 1
Harvested acres/Planted acres X Yield per harvested acre = Yield per planted acre
Method 2
Total yield for all acres/Planted acres = Yield per planted acre

destroyed by a hailstorm or not harvested for some reason, the yield per acre should reflect the acres planted, not the acres harvested. As shown in **Exhibit 5**, appraisers can use one of two methods to convert yield per harvested acre to yield per planted acre.

- **Price estimates** – Determine the typical price farmers receive for the crops under consideration.
- **Government programs** – Determine whether the crops being considered are typically enrolled in government support programs, such as agriculture risk coverage (ARC) or price loss coverage (PLC). If they are, then any income the property owner received from the programs should be included in the calculation of net to land value. If government support programs are typical, more details will be needed. For ARC, typical information would be the county benchmark Olympic average, Olympic bench mark price, benchmark revenue, the guarantee revenue, the actual yield, national average price and the actual revenue. [NOTE: Do not use income from Conservation Reserve Program (CRP) payments. That program is discussed later in this manual.]
- **Cost estimates** – Determine the typical variable and fixed expenses.
- **Additional income** – Determine any additional income farmers typically receive and share with the property owner. For example, this would include income received from grazing cattle on wheat fields and any other income incidental to producing crops or raising livestock. In areas where grazing land is commonly set aside to rejuvenate the cover, adjust grazing income to reflect that fact.

After collecting and reviewing the above information, the next step is to choose a method for determining net to land value. The two available methods are:

- **Five-year average lease income** – Use five-year averages of crop yields, prices, additional income and expenses to determine typical net to land values for each class.
- **Five yearly leases** – Calculate the annual net to land value for each of the five years, then average them.

Because leasing practices and government farm programs change, using the method of separate calculations for each year is preferable.

Calculating Net Income for a Typical Share Lease

Calculating net to land value for a share lease requires four steps:

1. Calculate the landowner’s share of gross income.
2. Calculate the landowner’s share of expenses.
3. Subtract the landowner’s expenses from the landowner’s gross income.
4. Repeat the preceding steps for the four years remaining in the base period.

The following provides the assumptions used in **Exhibit 6** which shows how to complete the four steps for calculating net to land value for a share lease. Using the example of dryland grain sorghum, **Exhibit 6** assumes that the property owner receives one-third of gross receipts and pays one-third of the fertilizer, harvest and hauling expenses.

The typical yield for one year in the five-year period was 2,165 pounds per acre. The typical price received on the yield was \$8.33 per hundredweight (cwt). The typical property owner shared the following costs with the tenant: \$15 per acre for fertilizer, \$10 per acre for harvesting and \$0.25 per cwt for hauling.

In this hypothetical area, farmers typically participate in ARC. During the year, the guarantee revenue was \$175.44 per acre and the actual revenue was \$145.08. This results in a formula payment rate of \$30.36 per acre. Since the benchmark revenue was \$204.00 and 10 percent of this is less than \$30.36, the payment rate is \$20.40 per acre. Property taxes were approximately \$1.75 per acre.

Unavailable Leases-Alternative Methods

In some cases, neither share nor cash leases are available for comparison within the immediate area. For example, fish farms and exotic game ranches are rare; finding five to eight leases within the entire state may be difficult.

If leases are unavailable, the chief appraiser must use alternative methods to determine the amount a reasonable lessee in the area would pay to lease the land on either a cash or

EXHIBIT 6
Share Lease Method
Typical Steps in the Share Lease Method

1. Calculate the landowner's share of gross income.

Multiply the average price received times the typical yield per planted acre times the landowner's share. In this example, the gross income for the year in question would be calculated as follows:

Grain Sorghum	=	\$8.33 per cwt	X	21.65 cwt	X	.333	=	\$ 60.05
Government Payment	=	\$20.40 per acre	X	1 acre	X	.333	=	6.79
Gross Income								\$66.84

2. Calculate the landowner's share of shared expenses.

Multiply the cost per unit or acre times the number of units times the landowner's share.

Fertilizer	\$15.00 per acre	X	1 acre	X	.333	=	\$ 5.00
Harvest	\$10.00 per acre	X	1 acre	X	.333	=	3.33
Hauling	\$.25 per cwt	X	21.65 cwt per acre	X	.333	=	1.80
Share Expenses							\$10.13

In addition, expenses include the property taxes (based on agricultural use appraisal). The tax was \$1.75 per acre.

3. Subtract the property owner's shares of expenses and property taxes from the property owner's share of gross income.

The remainder is the net to land value for the year in question.

$$\$66.84 - \$10.13 - \$1.75 = \$54.96$$

4. Repeat these three steps for each of the other four years in the five-year period.

In most cases, more than one crop is typical and prudent in an area, so appraisers must calculate more than one net to land value for each year. To develop a net to land value for a land class, you must combine the net to land values for each crop.

Appraisers combine the net to land values established for each of the crops according to the percentage of crop mix. Suppose the dryland mix was 40 percent grain sorghum, 30 percent cotton and 30 percent wheat. The net to land value for the individual crops was \$54.96 for grain sorghum, \$27.59 for cotton and \$19.05 for wheat. The net to land value for the class is determined by calculating a weighted average.

Crop	Crop Mix		Crop Net to Land Value		Combined Net to Land Value
Grain Sorghum	.40	x	\$ 54.96	=	\$ 21.98
Cotton	.30	x	\$ 27.59	=	8.28
Wheat	.30	x	\$ 19.05	=	5.72
					\$ 35.98

The five-year average of the annual net to land values can then be used to determine the productivity value for the land class.

share basis. The chief appraiser may go outside the appraisal district to find the nearest comparable lease operations. Using his or her best judgment, the chief appraiser must decide whether these leases can reasonably compare with operations in the appraisal district.

Chief appraisers must decide whether to supplement out-of-district leases with an owner-operator budget. If no reasonably comparable leases are available, the chief appraiser may rely entirely on the owner-operator budget method to determine what a reasonable lessee would pay to lease the land in question. Owner-operator budgets may provide the only method of estimating lease amounts for intensive or unusual

agricultural operations such as truck farms or poultry farms geared toward mass production.

Appendix B discusses the owner-operator budget method.

Developing the Appraisal Schedule

After calculating the average net to land values for each class and subclass, the appraiser develops an agricultural appraisal schedule. Dividing the class net to land value by the capitalization rate gives the class's agricultural use value. Using information from the previous example, **Exhibit 7** shows a typical class schedule.

EXHIBIT 7
Typical Class Schedule

Capitalization Land Class	Net to land Value	Capitalization Rate	Appraisal
Irrigated Cropland I	\$42.00	.10	\$420.00
Dry Cropland I	\$35.98	.10	\$359.80
Native Pasture I	\$ 4.90	.10	\$ 49.00

Classifying Individual Parcels

The major problem facing the appraiser is determining the number of acres in each land class for each individual farm or ranch. This problem is especially difficult for appraisal districts that have not developed land ownership maps.

Detailed soil surveys contain maps on soils and topography characteristics. Ownership maps incorporating soil survey information provide the most accurate means of determining acreage per land class on an individual parcel. Tracing boundary lines with a planimeter gives a relatively accurate reading of acreage within the land classes.

Appraisal districts without ownership maps must develop a procedure for obtaining acreage breakdowns. The NRCS has information on individual farms whose owners participate in governmental programs. In addition, the NRCS developed conservation plans for many producers and can provide such information.

In many cases, it is necessary to obtain the assistance of the landowner in determining the acreage breakdown. The chief appraiser may consider requesting additional information from the landowner or asking for the breakdown of acres in each land class.

Appraising Individual Parcels

If Farmer A owns a section of qualifying land (640 acres) of which 160 acres are classified as Irrigated Cropland I, 300 acres are classified as Dry Cropland I and 180 acres are classified as Native Pasture, the total agricultural value of the land would be calculated by applying the appraisal schedule to the breakdown of acres as shown in **Exhibit 8**.

The appraiser must estimate the market value of the land based on generally accepted market appraisal techniques. The appraiser may appraise the total parcel or have a market value schedule that follows the same classes as the special appraisal schedule. The choice will depend on local market conditions

EXHIBIT 8
Application of Appraisal Schedule

Number Land Classification	Acres		Ag. Use Value	=	Total Ag. Use Value
Irrigated Cropland I	160	x	\$ 420.00	=	\$ 67,200
Dry Cropland I	300	x	359.80	=	107,940
Native Pasture	180	x	49.00	=	8,820
Total	640				\$ 183,960

and on the feasibility of a schedule approach. Often a market value schedule considers the size of the tract and its location, rather than its land classification or agricultural use.

Assuming a market schedule based on use classifications is appropriate, appraisers should apply the appropriate market value schedule to the number of acres in each land class. **Exhibit 9** shows the calculation of market value assuming the market value schedule reflects \$2,000 per acre for Irrigated Cropland I, \$1,800 per acre for Dry Cropland I and \$1,600 per acre for Native Pasture.

EXHIBIT 9
Market Value Schedule

Number Land Classification	Acres		Market Value	=	Total Market Value
Irrigated Cropland I	160	x	\$ 2,000	=	\$ 320,000
Dry Cropland I	300	x	1,800	=	540,000
Native Pasture	180	x	1,600	=	288,000
Total	640				\$ 1,148,000

Federal Farm Programs

The federal government aids the agricultural industry through direct grants, low-interest loans, commodity subsidies and a variety of other measures. In some cases, participation in these programs affects the agricultural productivity value of farm and ranch land. This portion of the manual summarizes a few current federal programs that are available to producers and gives information about whether and how to adjust net to land calculations to account for federal financial aid.

The main programs are the Conservation Reserve Program (CRP), ARC and PLC. The CRP is a 10- to 15-year contract providing the landowner with yearly payments in exchange for removing land from agricultural production.

ARC provides an income subsidy based on revenue while PLC provides income subsidy based on price. As an example, if prices go up, these programs will not pay out. There is a \$125,000-per-person combined ARC/PLC market loan gain or loan deficiency payment each year.

2018 Farm Bill

At the date of publication, the 2018 Farm Bill had not become law. Once passed, cotton is likely to be eligible again for some government programs. The ARC and PLC programs are not expected to see substantial changes from 2014. Chief appraisers should keep up with any possible changes to the federal farm programs.

The Conservation Reserve Program (CRP)

The purpose of CRP is to remove highly erodible and environmentally sensitive land from crop production; to conserve and improve the soil, water and wildlife resources of such land; and to address issues raised by state, regional and national conservation initiatives. Eligible land consists of:

- highly erodible cropland that has been cropped or devoted to a conserving use four of six years between 2008 and 2013;
- other cropland that if allowed to remain in production would degrade soil, water or air quality or could be used to improve them;
- pastureland devoted to water quality, quantity or wildlife purposes; and
- certain historic grassland and forest areas either providing, or improved to provide, habitat for plants and animals of significant ecological value.

Program eligibility is limited to individuals or entities making less than \$900,000 a year in average adjusted gross income for the preceding three years.

CRP provides 10 to 15 annual rental payments based on landowner offers and dryland cash rental rates that are updated every other year, as well as 50 percent cost-sharing for the establishment and required maintenance of the planted cover. Such rental payments received by a person or legal entity are limited to \$50,000 a year. CRP acres in counties are capped when they reach 25 percent of total county cropland acres enrolled in the CRP plus the Wetland Reserve Easement Program. This cap can be waived if landowners have difficulty implementing conservation plans and if county government concurs that exceeding the cap would not adversely affect the local economy.

CRP allows managed harvesting including haying and biomass harvesting (at least once every five years but no more than once every three years); routine grazing (no more often than once every two years); and prescribed grazing of invasive species. All usages require a 25 percent reduction in rental rates except routine and prescribed grazing when done by a beginning farmer or rancher. Emergency haying and grazing use authorized by the U.S. Secretary of Agriculture is allowed without rental rate reduction and may be allowed in unaffected areas if it benefits impacted areas.

Beginning in 2016 the Grazing Reserve Program was renamed the CRP Grazing Lands program. It pays landowners a \$15-per-acre annual rental payment to enroll working grasslands into the program. This program allows haying, grazing, mowing or harvesting for seed production and other necessary agricultural practices when done as part of an approved conservation plan, subject to appropriate restrictions for nesting seasons for important wildlife species.

Agricultural use includes leaving land idle for the purpose of participating in any governmental program.¹⁵⁹ CRP land can qualify for agricultural appraisal under Section 1-d-1. On the other hand, CRP acreage may not receive a special appraisal under Section 1-d. Tax Code Section 23.42 requires that a property owner intend to use land for agriculture as an occupation or business venture for profit during the current year. The CRP program is an incentive to not use land for agriculture. There is no way to reconcile these differences; as a result, a property owner may not receive 1-d appraisal for CRP land.

CRP land should be placed in the land class the property was in before it qualified as CRP land. The agricultural use, as well as the principal use, of CRP land is participation in a government program. Although the land is planted with ground cover, it is not in production. The only evidence of the land's classification is the property's land class before it qualified for the CRP program.

Since CRP payments are not based on farm production, they should not be considered in calculating net to land value regardless of how typical CRP participation may be in the area. CRP land should simply receive the per-acre value of other land within its land class.

¹⁵⁹ Tex. Tax Code §23.51(2)

Agriculture Risk Coverage (ARC)

ARC was established by the federal Agricultural Act of 2014 (known as the 2014 Farm Bill).¹⁶⁰ Payments are made whenever the annual crop revenue is less than 86 percent of its historical level and then only on 85 percent of the base acres of a farm. The producer can choose either county-level ARC or individual farm ARC.

If the producer chooses the county level, only revenue loss at the county level triggers a payment. The county revenue guarantee is 86 percent of the historical revenue for the county. It is based on the “Olympic average” of the five preceding years. The formula is:

$$85\% \times \text{number of base acres} \times \text{difference between county revenue guarantee and actual crop revenue} = \text{county ARC}$$

The payment is limited to 10 percent of the historical revenue.

If the producer chooses the individual farm ARC it means that individual crop yields from the farm will be compiled into a single, whole farm guarantee. The formula is:

$$65\% \times \text{number of base acres} \times \text{difference between revenue guarantee and actual revenue} = \text{individual farm ARC}$$

Price Loss Coverage (PLC)

PLC was also established by the 2014 Farm Bill. Instead of tying payment to revenue like the ARC program, PLC payment is based on prices. The payments are also based on the farm’s base acres, FSA payment yield and the difference between the reference price and the annual national average price.

The PLC formula is 85 percent *times* the number of base acres *times* FSA payment yield *times* the difference between the reference price and the annual national average price. The FSA payment yield is the greater of either 90 percent of the average yield per planted acre between 2008 to 2012 or the CCP yield from the Food, Conservation and Energy Act of 2008 (also known as the 2008 Farm Bill).¹⁶¹

Landowners receiving government payments can qualify property under either 1-d or 1-d-1. The land itself is still used for agricultural production; the only difference is that there is another source of income for the commodity. Both ARC and PLC are based on individual commodities, so it is possible for one commodity to receive a payment while another one does not in a single county.

Unlike a CRP payment, a government payment is attributable to the land’s productivity. Appraisers should include government payments in the calculation of gross income when such payments are typical in an agricultural class.

Whether an individual property owner actually received a government payment in any given year does not matter. If an average property owner exercising ordinary prudence would have received government payments during the five-year period, the payment income must be included.

Other Federal Programs

There are additional federal programs that are specific to a single crop. A chief appraiser should review each program carefully to determine whether it affects local productivity value for agricultural lands. If the crops are planted in a county and the payment typically provides income to producers, then the payment should be included.

Future subsidies may not reach all classes of land and certainly will not reach all property owners within a specific class. A good rule of thumb to follow is that the income from a federal subsidy will affect a class’ net to land value only when the program subsidizes production.

¹⁶⁰ Agricultural Act of 2014, Public Law No: 113-79.

¹⁶¹ Food, Conservation, and Energy Act of 2008, Public Law No: 110-234.

Rollback Procedure on 1-d-1 Land

The law imposes a rollback tax on 1-d-1 land when the owner stops using it for agriculture.¹⁶² The same is true for 1-d land, but selling 1-d land also triggers a rollback.¹⁶³ Under 1-d-1, the rollback tax is a sanction for taking the land out of agricultural production.¹⁶⁴

This sanction is commonly called a rollback because it recaptures the taxes that would have been paid had the property been taxed at market value for each year covered by the rollback. This section discusses 1-d-1 rollbacks. It explains what triggers a 1-d-1 rollback and shows how to calculate the rollback tax. The 1-d rollback is discussed later in this manual.

The rollback tax equals the difference between the taxes *actually* imposed in the five years preceding the change in use and the taxes that *would have* been imposed on the property's market value.¹⁶⁵

Technically, the tax is an additional tax imposed by law on the date the change of use occurred.¹⁶⁶ It has its own delinquency date and a tax lien attaches to the land on the date the change in use occurs.¹⁶⁷

The property owner can trigger the rollback by ending agricultural operations or diverting the property to a non-agricultural use.¹⁶⁸ Selling the property does not trigger the 1-d-1 rollback. If the property owner diverts only part of a property to a non-agricultural use, the rollback tax applies only to the changed portion.¹⁶⁹

If a change in use occurs at about the same time the land is sold, the buyer and seller typically address in their contract of sale which party will be responsible for payment of the rollback taxes. At any rate, a lien attaches to the land itself to secure payment of the rollback taxes, interest, and any penalties as of the date the change in use of the land occurred.¹⁷⁰

The chief appraiser determines if and when the change of use occurs¹⁷¹ and must send the property owner written notice of the determination. If the property owner does not protest the determination or the appraisal review board decides the use has changed, the tax assessor calculates the amount of additional tax due, adds the appropriate amount of interest and issues a rollback tax bill.¹⁷²

What Qualifies as a Change of Use?

A change of use is a physical change. The property owner must stop using the land for agricultural purposes. If the property owner continues to use the land for agriculture but does not maintain the degree of intensity typical for the area, the land may lose its eligibility for 1-d-1 appraisal without incurring a rollback. Reduced intensity resulting from the property owner's free choice causes a loss of agricultural appraisal; reduced intensity resulting from agricultural necessity does not. If the land remains in agricultural use, neither kind of reduction triggers a rollback.

For example, suppose that the typical ranching operation in an appraisal district has one animal unit for every 10 acres of pasture. A landowner receiving agricultural appraisal gets tired of ranching and sells off his or her entire herd. Since the landowner stopped all agricultural activity, he or she loses the agricultural appraisal and suffers a rollback.

¹⁶² Tex. Tax Code §23.55(a) and Op. Tex. Att'y Gen. No. JM-667 (1987)

¹⁶³ Tex. Tax Code §23.46(c)

¹⁶⁴ Tex. Tax Code §23.55(f) and (j); *Resolution Trust Corp. v. Tarrant County Appraisal Dist.* 926 S.W.2d 797, 804-805 (Tex.App.—Fort Worth, 1996)(As rollback tax is a penalty, federal agency not liable for rollback tax under federal sovereign immunity)

¹⁶⁵ Tex. Tax Code §23.55(a)

¹⁶⁶ Tex. Tax Code §23.55(a)

¹⁶⁷ Tex. Tax Code §23.55(b) and (e)

¹⁶⁸ Tex. Tax Code §23.55(a) and Op. Tex. Att'y Gen. No. JM-667 (1987)

¹⁶⁹ Tex. Tax Code §23.55(d)

¹⁷⁰ Tex. Tax Code §23.55(b)

¹⁷¹ Tex. Tax Code §23.55(e); *Compass Bank v. Bent Creek Investments, Inc.*, 52 S.W. 3d 419, 424-425 (Tex. App.—Fort Worth, 2001)

¹⁷² Tex. Tax Code §23.55(e)

If the rancher reduces the herd so that there is one animal unit for every 50 acres of pasture, he or she loses the eligibility for agricultural appraisal without incurring a rollback. Because the land remains in agricultural use, rollback penalties do not apply. The same result occurs when agriculture ceases to be the primary use of the land.

Special situations such as freezes, droughts, severe fires or other natural disasters can create an agricultural necessity that extends the normal time that the land remains out of agricultural production. In such cases, the land remains eligible for agricultural appraisal until the property owner clearly indicates intent to give up agriculture permanently.

For example, a drought might deplete water and feed supplies, requiring ranchers to sell off herds and leave the land idle until native pasture is restored. If, after one year, the typical rancher restocks his or her herd and resumes production, those ranchers who keep their land out of agricultural use more than one year lose the eligibility for 1-d-1 appraisal and suffer a rollback. The same general principles apply if a drought damages the land, requires farmers to suspend agricultural operations for a period exceeding the normal soil rotation period, or if freezes destroy citrus groves. In cases of drought, Tax Code Section 23.522 may also apply.

If agricultural necessity forces a property owner to postpone agricultural operations on part of a larger tract, the property owner can retain agricultural appraisal on the entire tract without incurring a rollback on any portion of the property. For example, fire might destroy 200 acres of a 2,000 acre range, forcing the property owner to postpone agricultural operations on those 200 acres until the native pasture restores itself. The property owner would continue to receive agricultural appraisal on the entire tract.

Chief appraisers must exercise great care in determining when a change of use triggers a rollback. Rollback is a serious economic penalty that should not be imposed when circumstances beyond a property owner's control cause an abnormally long but temporary suspension of agriculture. Appraisers must keep in mind that change-of-use issues are often unclear and require a delicate balance between fair application of the law and good decisions based on the facts of each situation.

Some actions are not considered a change of use. Filing a waiver of special appraisal does not trigger a rollback.¹⁷³ The chief appraiser may not consider any period during which land is owned by the state in determining whether a change of use has occurred.¹⁷⁴ A property owner may claim the land as part of his or her residence homestead without triggering a rollback.¹⁷⁵ If the property owner builds a residence homestead on land that formerly qualified for 1-d-1 appraisal, however, he or she avoids rollback only as long as he or she continues to use the home as a residence. Selling the home may trigger a rollback on the land making up the homestead. In effect, the property owner must occupy the house for five years to avoid a rollback tax accruing for the years the land was not taxed at market value.

Change of Use Notification

On determining either that agricultural use has stopped or that the land has been diverted to a non-agricultural use, the chief appraiser must send the property owner written notice of the determination as soon as possible. The notice must explain the property owner's right to protest the determination.¹⁷⁶ Appraisal districts may use the Comptroller's model Form 50-789 Notice of Determination Resulting in Additional Taxation. The property owner may protest the change-of-use decision by filing a protest with the appraisal review board within 30 days after the notice is delivered.¹⁷⁷ The appraisal review board must hear a timely protest even if appraisal records have been approved for the year.

If the owner does not file a timely protest or if the final determination of the protest is that the rollback taxes are due, the tax assessor shall prepare and deliver a bill for the additional taxes plus interest as soon as is practicable.¹⁷⁸

If the land is owned by an individual 65 years of age or older, the chief appraiser must deliver written notice to the property owner stating that he or she believes a change in land use may have occurred before making a determination that the land use changed. The notice must include a form on which the owner may indicate that the land remains eligible to be appraised under 1-d-1, along with a self-addressed, postage prepaid envelope with instructions for returning the form to the chief appraiser. The chief appraiser must consider the

¹⁷³ Tex. Tax Code §§23.20(g) and 23.55

¹⁷⁴ Tex. Tax Code §23.55(a)

¹⁷⁵ Tex. Tax Code §23.55(i)

¹⁷⁶ Tex. Tax Code §§23.46(c) and 23.55(e)

¹⁷⁷ Tex. Tax Code §41.44(a)(3)

¹⁷⁸ Tex. Tax Code §23.55(e)

property owner's response in determining whether the land remains eligible for appraisal as 1-d-1 property.¹⁷⁹

If the chief appraiser does not receive a response on or before the 60th day after the date the notice is mailed, the chief appraiser must make a reasonable effort to locate the property owner and determine whether the land remains eligible for ag appraisal before determining that a change in use of the land has occurred. A reasonable effort includes sending an additional notice to the property owner immediately after the expiration of the 60-day period by first-class mail in an envelope on which "RETURN SERVICE REQUESTED" is printed in all capital letters; or another appropriate statement directing the U.S. Postal Service to return the notice if it is not deliverable as addressed; or providing the additional notice in another manner that the chief appraiser deems appropriate.¹⁸⁰

Taxes for the Year Use Changes

Tax Code Section 23.55 imposes rollback taxes – the difference between the property's market value and its agricultural use value – for each of the five years preceding the year in which agricultural use of the property ends. In *Bexar Appraisal District v. Sivage Investments, Ltd.*, the owner agreed that rollback taxes for the five years preceding the end of agricultural use were proper. The appeal arose, however, "from a dispute involving ad valorem taxes that were imposed for the year the use changed for property that previously qualified as open-space lands." The court of appeals held in *Sivage* that Tax Code "section 23.55 does not authorize the district to reappraise the land at the higher market value for the year the change in use occurs." Should you have questions about the *Sivage* case or the issue it addressed, please consult your attorney.¹⁸¹

Calculating the Rollback

The 1-d-1 rollback covers the five calendar years preceding the current year.¹⁸² If the use changes in 2016, the rollback covers 2015, 2014, 2013, 2012 and 2011. The preceding years are based on calendar year use from January through December and not on the tax collection periods.

¹⁷⁹ Tex. Tax Code §23.551

¹⁸⁰ Tex. Tax Code §23.551

¹⁸¹ *Bexar Appraisal District v. Sivage Investments, Ltd., et al. (Sivage)*, 2014 Tex. App. LEXIS 12472 (Tex. App.-San Antonio, November 19, 2014) (memorandum opinion)

¹⁸² Tex. Tax Code §23.55(a)

EXHIBIT 10 Total Rollback Tax

Tax Year	Tax Paid	Tax on Market Value	Difference
2015	\$50	\$500	\$450
2014	50	520	470
2013	50	500	450
2012	50	480	430
2011	50	420	370
Total			\$ 2,170

Exhibit 10 shows that the rollback tax itself is the difference between the taxes imposed under special appraisal and the total taxes that would have been imposed on the market value of the land.¹⁸³

The tax assessor must add 7 percent annual interest to these amounts from the date they would have become due.¹⁸⁴ The due date for each year is the date tax bills were mailed that year.¹⁸⁵

Since the tax assessor computes interest from the date the difference would have become due to the date the change of use occurs, some proration will be necessary.

Exhibit 11 shows interest calculated assuming that the use changed on Nov. 1, 2016 and that the tax assessor mailed tax bills on Oct. 1 each year.

The interest proration may be figured using number of days only. For example, the 2012 interest runs for 1,492 days (4 years = 1,460 days + 32 days from Oct. 1 to Nov. 1). The interest is computed by multiplying:

$$\$430 \times .07 \times (1,492 \div 365) = \$123.04$$

Gaps in the Five-Year Period

It could happen that the five-year rollback period will include years when the property did not qualify for agricultural use appraisal. If the property had been taxed on its market value in 2012, the rollback tax would have been computed for 2011, 2013, 2014 and 2015.

¹⁸³ Tex. Tax Code §23.55(a)

¹⁸⁴ Tex. Tax Code §23.55(a)

¹⁸⁵ Tex. Tax Code §31.02(a)

EXHIBIT 11
Calculating Interest, 2011-15

**2015 interest accrues from Oct. 1, 2015 to Nov. 1, 2016
 (1 year, 32 days)**

The formula for the interest is:

$$\begin{aligned} \$ 450.00 &= \text{Tax} \\ 31.50 &= \$450 \times .07 &= 1 \text{ year's interest} \\ 2.76 &= \$450 \times .07 \times (32 \div 365) &= 32 \text{ days' interest} \\ \mathbf{\$ 484.26} &= \mathbf{\text{Total 2015 tax and interest}} \end{aligned}$$

**2014 interest accrues from Oct. 1, 2014 to Nov. 1, 2016
 (2 years, 32 days)**

The formula for the interest is:

$$\begin{aligned} \$ 470.00 &= \text{Tax} \\ 65.80 &= \$470 \times .07 \times 2 &= 2 \text{ years' interest} \\ 2.88 &= \$470 \times .07 \times (32 \div 365) &= 32 \text{ days' interest} \\ \mathbf{\$ 538.68} &= \mathbf{\text{Total 2014 tax and interest}} \end{aligned}$$

**2013 interest accrues from Oct. 1, 2013 to Nov. 1, 2016
 (3 years, 32 days)**

The formula for the interest is:

$$\begin{aligned} \$ 450.00 &= \text{Tax} \\ 94.50 &= \$450 \times .07 \times 3 &= 3 \text{ years' interest} \\ 2.76 &= \$450 \times .07 \times (32 \div 365) &= 32 \text{ days' interest} \\ \mathbf{\$ 547.26} &= \mathbf{\text{Total 2013 tax and interest}} \end{aligned}$$

**2012 interest accrues from Oct. 1, 2012 to Nov. 1, 2016
 (4 years, 32 days)**

The formula for the interest is:

$$\begin{aligned} \$ 430.00 &= \text{Tax} \\ 120.40 &= \$430 \times .07 \times 4 &= 4 \text{ years' interest} \\ 2.64 &= \$430 \times .07 \times (32 \div 365) &= 32 \text{ days' interest} \\ \mathbf{\$ 553.04} &= \mathbf{\text{Total 2012 tax and interest}} \end{aligned}$$

**2011 interest accrues from Oct. 1, 2011 to Nov. 1, 2016
 (5 years, 32 days)**

The formula for the interest is:

$$\begin{aligned} \$ 370.00 &= \text{Tax} \\ 129.50 &= \$370 \times .07 \times 5 &= 5 \text{ years' interest} \\ 2.27 &= \$370 \times .07 \times (32 \div 365) &= 32 \text{ days' interest} \\ \mathbf{\$ 501.77} &= \mathbf{\text{Total 2011 tax and interest}} \end{aligned}$$

\$2,625.01 = Combined total rollback taxes and interest due

It could also happen that the property owner switched from 1-d to 1-d-1 designation during the five-year period. Calculation in these cases is discussed with 1-d rollbacks.

Rollback Taxes Due Date

The rollback tax is due when the rollback tax bill is mailed.¹⁸⁶ The rollback tax becomes delinquent if not paid before the first Feb. 1 date that is at least 20 days after the tax bill is mailed. For example, if the bill is mailed on Jan. 9, the rollback tax becomes delinquent on Feb. 1 of that same year because there are 20 days between Feb. 1 and Jan. 9. If the bill is mailed on Jan. 30, the rollback tax becomes delinquent on Feb. 1 of the following year. The entire amount begins to accrue penalty and interest on the delinquency date at the same rate as the delinquent taxes.¹⁸⁷

A tax lien attaches to the land on the date the use changes. The lien covers payment of the additional tax, interest and any penalties.¹⁸⁸

If land is sold at about the same time the use changes, the buyer and seller may dispute liability.¹⁸⁹ Under the law, the person who has title to the property on the date the use changes is personally liable for the rollback tax, but the lien may be foreclosed against the land regardless of who is liable for taxes.¹⁹⁰ Tax certificates on land that receives agricultural appraisal must note the appraisal and state that the land may be subject to additional taxes.¹⁹¹

Exempt Entities

Exemptions that apply to ordinary property taxes do not apply to rollback taxes. Even if the land might be exempt from ordinary taxes in the new owner's hands, the rollback tax still becomes due if that owner takes the property out of agricultural use. In most cases, the property owner is personally liable for the rollback tax, and the tax lien may be enforced against the property.

The state is not subject to rollback taxes when it acquires, for a public purpose, property that previously was specially appraised.¹⁹²

¹⁸⁶ Tex. Tax Code §31.02(a)

¹⁸⁷ Tex. Tax Code §23.55(e)

¹⁸⁸ Tex. Tax Code §23.55(b)

¹⁸⁹ *Sefzik v. Mady Dev., L.P.*, 231 S.W.3d 456 (Tex. App.—Dallas, 2007)

¹⁹⁰ Tex. Tax Code §23.55(b) and (e)

¹⁹¹ Tex. Tax Code §31.08 and 34 Tex. Admin. Code §9.3040(b)

¹⁹² Tex. Tax Code §23.55(f)(3)

Exceptions to Rollback Sanctions

Some changes of use do not trigger a rollback tax.¹⁹³ The rollback sanctions for change of use imposed under Tax Code Section 23.55 do not apply to:

- land dedicated for cemetery purposes that is located in an unincorporated area of a county with a population of less than 100,000, if the land does not exceed five acres and is owned by a qualified not-for-profit cemetery organization. In order for this exception to apply, the cemetery organization must dedicate the land for a cemetery purpose and the land must be adjacent to a cemetery that has existed for more than 100 years.¹⁹⁴ The cemetery organization may not have dedicated more than five acres in the county for cemetery purposes in the five years before dedicating the land for cemetery purposes;
- land owned by an organization that qualifies as a religious organization if within five years the organization converts the land to a use for which the land is eligible for an exemption under Tax Code Section 11.20;¹⁹⁵
- land owned by an organization that exists exclusively to perform religious or charitable purposes, and engages in performing the charitable functions, if within five years the organization converts the land to a use for which the land is eligible for an exemption under Tax Code Section 11.18(d)(19);¹⁹⁶
- property transferred to a charitable organization improving property for low-income housing with volunteer labor if the organization converts the property to a use for which the property is eligible for an exemption. The rollback sanctions may apply in connection with a change in use that is due to a county or school district unless the governing body waives the sanction;¹⁹⁷
- land owned by an organization that qualifies as a school if within five years the organization converts the land to a use for which the land is eligible for an exemption under Tax Code Section 11.21;¹⁹⁸

- a sale of land for right-of-way;¹⁹⁹
- a condemnation;²⁰⁰
- a transfer of property to the state or a political subdivision of the state for a public purpose;²⁰¹
- a transfer of property from the state, a political subdivision or a qualified nonprofit corporation to an individual or a business entity for economic development under certain conditions;²⁰² or
- use of land changes that qualify as timberland under special appraisal.²⁰³

Questions and Answers about Rollback Procedures

Is a rollback triggered if land loses its eligibility for special appraisal or if the property owner does not reapply?

No. Only an end to all agricultural use or an affirmative change of use triggers rollback under 1-d-1. If the land continues in agricultural use but no longer qualifies, it will be taxed at market value, but there will be no rollback tax.

Is a rollback automatically triggered if the property owner files documents to plat the land?

No. Evidence that the actual land use has changed triggers the rollback. Plat documents provide some evidence but must be accompanied by physical change, such as ceasing agricultural operations, cutting roads or installing utilities. Even in that case, the change of use may affect only part of the platted land.

Do discounts for early payment apply to rollback taxes?

No. Discounts to encourage prompt payment of taxes apply only to regular property taxes. They do not apply to rollback taxes.

¹⁹³ Tex. Tax Code §23.55

¹⁹⁴ Tex. Tax Code §23.55(j)

¹⁹⁵ Tex. Tax Code §23.55(l)

¹⁹⁶ Tex. Tax Code §23.55(o)

¹⁹⁷ Tex. Tax Code §23.55(p)

¹⁹⁸ Tex. Tax Code §23.55(q)

¹⁹⁹ Tex. Tax Code §23.55(f)(1)

²⁰⁰ Tex. Tax Code §23.55(f)(2)

²⁰¹ Tex. Tax Code §23.55(f)(3)

²⁰² Tex. Tax Code §23.55(f)(4)

²⁰³ Tex. Tax Code §23.55(g)

Agricultural Appraisal Under Section 1-d

Much of the agricultural land in Texas qualifies for an agricultural appraisal under Texas Constitution Article VIII, Section 1-d-1, but agricultural appraisal is available under Section 1-d as well. This section discusses 1-d agricultural appraisal.

Under Tax Code Section 23.42(a), an individual is eligible for 1-d agricultural appraisal on land he or she owns if the following conditions are met on Jan. 1 of the tax year:

- The land has been devoted exclusively to or developed continuously for agriculture for the three years preceding the current year;
- The individual is using and intends to use the land for agriculture as an occupation or a business venture for profit during the current year; and
- Agriculture is the individual's primary occupation and primary source of income.²⁰⁴

Agriculture means the use of land to produce plant or animal products, including fish or poultry products, under natural conditions. Agriculture does not include the processing of plant or animal products after harvesting or the production of timber or forest products.²⁰⁵

The land must be individually owned.²⁰⁶ Land does not qualify under 1-d if it is owned by a corporation, partnership, trust or other association.²⁰⁷

Agriculture must be the property owner's primary occupation and primary source of income. Primary means "chief" or "largest." If the property owner engages in several different occupations, then agriculture must take a greater portion of his or her time and provide a greater portion of his or her gross income than any of the other occupations.²⁰⁸ This does

not necessarily mean that agriculture must take up a majority of the property owner's time and provide a majority of his or her income, but that agriculture should take more time and provide more gross income than any other single occupation or business venture.

Agriculture must provide more of the person's gross income than any other single occupation or business venture. In making this comparison, the chief appraiser considers only agricultural income and income produced from other activities or business ventures in which the property owner works or gives continuing supervision or attention.²⁰⁹ Proceeds from land sales, interest income, social security, rentals from inherited commercial property and oil and gas income are not to be considered income.

To determine a person's primary occupation and source of income, average the time spent and gross income earned from each occupation for no more than five consecutive years immediately before Jan. 1 of the current year.²¹⁰ If the property owner has not been in agriculture as an occupation for the entire year before Jan. 1, only the property owner's time spent and income earned since starting the agricultural occupation determines whether agriculture is his or her primary occupation and source of income.²¹¹

For example, suppose that land has been in continuous agricultural use for four years. On June 1, 2015, someone new to farming buys it. The purchaser files an application for 1-d appraisal in April of 2016. Since the land has been in continuous agricultural use for more than four years, it may qualify. The chief appraiser should examine the time between June 1, 2015 and April 2016 to determine whether the purchaser meets the time and income requirements.

²⁰⁴ Tex. Tax Code §23.42(a)(1), (2) and (3)

²⁰⁵ Tex. Tax Code §23.42(d)(1)

²⁰⁶ Tex. Const. art. VIII §1-d(a)

²⁰⁷ Tex. Tax Code §23.42(a-1)

²⁰⁸ Tex. Tax Code §23.42(c)

²⁰⁹ Tex. Tax Code §23.42(c) and (d)(2)

²¹⁰ Tex. Tax Code §23.42(c)

²¹¹ Tex. Tax Code §23.42(c)

As long as agriculture is the owner's primary occupation and primary source of income, land may receive 1-d appraisal if it is used for a non-agricultural purpose (such as hunting) that is secondary to and compatible with the agricultural land use.²¹² The impact of compatible secondary uses on net to land value is discussed elsewhere in this manual.

In some cases, a person who owns land used for growing florist items in counties with a population of 35,000 or less, and on which a greenhouse for growing florist items solely for wholesale purposes is located, is eligible to have the land designated as being held for agricultural use if:

- the land otherwise qualifies for the designation under Tax Code Section 23.42; and
- the landowner is not using it in conjunction with or contiguous to land being used to conduct retail sales of florist items.²¹³

Application Procedures

A property owner must apply for a 1-d appraisal each year.²¹⁴ A person who has received 1-d appraisal in the prior year needs only to report that all previously filed information is unchanged and to supply eligibility information not previously reported.²¹⁵ In applying for special appraisal, the property owner is required to use the appraisal district's form.²¹⁶ The appraisal district is to use PTAD's model form, or a form that varies somewhat in format and wording from PTAD's form but contains information which is in substantial compliance with the model form.²¹⁷ The chief appraiser can require the applicant to supply additional information if the initial application does not contain all the information necessary to rule on a particular application.²¹⁸

Property owners must file applications with the chief appraiser in the appraisal district where the land is located.²¹⁹ Farmers or ranchers whose land is appraised by more than one appraisal district must file an application in each appraisal district.

The form must include a space for the property owner to state his or her date of birth. Failure to provide date of birth does not affect eligibility for appraisal under 1-d.²²⁰

Application deadlines for 1-d appraisal are the same as those for 1-d-1. The application must be filed before May 1.²²¹ In individual cases where good cause is shown, the chief appraiser may extend the deadline by a single period not to exceed 60 days.²²² An extension must be granted in writing prior to May 1. When an extension for good cause is not granted, property owners may file a late application that is subject to penalty.²²³

Land is not eligible for special appraisal unless an application for agricultural use designation is timely filed each year.²²⁴

The chief appraiser is required to:

- send a 1-d application form before Feb. 1 of each year to every property owner whose land was designated for agricultural use during the preceding year;
- briefly explain how to qualify for agricultural designation; and
- publicize the application process and availability of forms in a manner that is reasonably designed to come to the attention of all residents in the appraisal district.²²⁵

Late Applications

A property owner may submit a late application for special appraisal after April 30 if it is filed before the appraisal review board approves records for that year (usually in July).²²⁶ If special appraisal is approved, the property owner is liable for a penalty equal to 10 percent of the difference between the tax if imposed at market value and the tax that would be due if imposed at the agricultural productivity value.²²⁷

The chief appraiser must note the penalty in the appraisal records and send the property owner written notice explaining the reasons for imposing the penalty.²²⁸ The tax assessor of the taxing unit adds the penalty amount to the tax bill and collects the penalty along with the annual tax payment.²²⁹ The amount

²¹² Tex. Tax Code §23.42(b)

²¹³ Tex. Tax Code §23.425

²¹⁴ Tex. Tax Code §23.43(a)

²¹⁵ Tex. Tax Code §23.43(d)

²¹⁶ 34 Tex. Admin. Code §9.402(a)

²¹⁷ 34 Tex. Admin. Code §9.402(a)

²¹⁸ Tex. Tax Code §23.44(a) and (b); and *Cordillera Ranch, Ltd. v. Kendall County Appraisal District*, 136 S.W.3d 249, 254 (Tex. App.—San Antonio, 2004) (burden of proof on applicant to clearly show entitled to special appraisal)

²¹⁹ Tex. Tax Code §23.43(a)

²²⁰ Tex. Tax Code §23.43(d)

²²¹ Tex. Tax Code §23.43(b)

²²² Tex. Tax Code §23.43(b)

²²³ Tex. Tax Code §23.431

²²⁴ Tex. Tax Code §23.43(c)

²²⁵ Tex. Tax Code §23.43(e) and (f)

²²⁶ Tex. Tax Code §§23.431(a) and 41.12

²²⁷ Tex. Tax Code §23.431(b)

²²⁸ Tex. Tax Code §23.431(c)

²²⁹ Tex. Tax Code §23.431(d)

of the penalty constitutes a lien against the property against which the penalty is imposed, as if it was a tax, and accrues penalty and interest in the same manner as a delinquent tax.²³⁰

Chief Appraiser's Action

The chief appraiser must review each application and decide whether to:

- approve it and designate the land for agricultural use;
- disapprove the application and request additional information; or
- deny the application.²³¹

The chief appraiser must determine the validity of each application for 1-d appraisal filed with the appraisal district before submitting the appraisal records to the appraisal review board for review and determination of protests.²³² If a chief appraiser has denied an application, he or she must notify the applicant within five days after the denial.²³³ The notice must contain a brief explanation of the procedures for protesting the denial to the appraisal review board.²³⁴ Notice must be sent by certified mail.²³⁵

One of the duties of the appraisal review board is to determine whether land is improperly granted special appraisal. Property owners who were denied agricultural use appraisals may file protests with the appraisal review board.²³⁶ Taxing units that believe a special appraisal was erroneously granted to any property owner may seek to remove the appraisal designation by filing a challenge with the appraisal review board.²³⁷

Additional Information

If the chief appraiser requests additional information, the property owner must respond within 30 days after the date of the request or the application will be denied.²³⁸ The chief appraiser may extend the deadline for good cause to allow the owner more time to gather the additional information. An extension may not exceed 15 days.²³⁹

Confidentiality of Applications

To qualify for agricultural appraisal under Section 1-d the property owner must provide a great deal of personal information that is not required of a person applying under Section 1-d-1. An application for 1-d designation is confidential²⁴⁰ and may not be disclosed except:

- to an appraisal office employee who appraises property;²⁴¹
- in a judicial or administrative proceeding in response to a lawful subpoena;
- to the person who filed the application or to his or her representative authorized in writing to receive the information;
- to the Comptroller's office and employees authorized in writing to receive the information;
- to a tax assessor or a chief appraiser who makes a written request;
- in a judicial or administrative proceeding relating to property taxation to which the person who filed the application is a party;
- for statistical purposes, if the released information does not identify specific property or a specific property owner; and
- in a public document or record that the appraisal office is required to prepare or maintain, to the extent the information is required to be included.²⁴²

A person with legal access to the confidential information commits a Class B misdemeanor if he or she knowingly allows an unauthorized person to inspect the information or discloses the confidential information to an unauthorized person.²⁴³

Appraisal Procedures for 1-d Land

Tax Code Section 23.41 establishes the appraisal procedure for 1-d agricultural use land. Appraisal districts must base appraisals on the land's capacity to produce agricultural products. The value is determined by "capitalizing the average net income the land would have yielded under prudent management from production of agricultural products during the five years preceding the current year."²⁴⁴ This statute must be read in conjunction with its constitutional counterpart — Article VIII, Section 1-d — which states that 1-d land be assessed "on the consideration of only those factors relative to such agricultural use."²⁴⁵

²³⁰ Tex. Tax Code §23.431(d)

²³¹ Tex. Tax Code §23.44(a)

²³² Tex. Tax Code §23.44(c)

²³³ Tex. Tax Code §23.44(d)

²³⁴ Tex. Tax Code §23.44(d)

²³⁵ Tex. Tax Code §1.07(d)

²³⁶ Tex. Tax Code §§41.01(a)(5) and 41.41(a)(5)

²³⁷ Tex. Tax Code §41.03(a)(4)

²³⁸ Tex. Tax Code §23.44(b)

²³⁹ Tex. Tax Code §23.44(b)

²⁴⁰ Tex. Tax Code §23.45(a)

²⁴¹ Tex. Tax Code §23.45(a)

²⁴² Tex. Tax Code §23.45(b)(1)-(6)

²⁴³ Tex. Tax Code §23.45(c)

²⁴⁴ Tex. Tax Code §23.41(a)

²⁴⁵ Tex. Const. art. VIII §1-d(a)

These provisions require an income approach for agricultural land, considering only the income from agricultural production. On the surface, this appears identical to the income approach required in valuing 1-d-1 land, but Tax Code Section 23.53 fixes the capitalization rate at 10 percent or greater for the appraisal of 1-d-1 land.

PTAD suggests that a chief appraiser value 1-d land using the methods and procedures described in this manual for 1-d-1 land. A chief appraiser should classify land qualified under 1-d according to the classification system described in this manual. The land would receive the same value per acre as if it had been qualified under Section 1-d-1.

Rollback Procedures for 1-d Appraisal

The law imposes a rollback tax on 1-d land when the owner takes it out of agricultural use or sells it.²⁴⁶ A lien attaches to the land itself to secure payment of the rollback taxes, interest, and any penalties as of the date of sale or the date the change in use of the land occurred.²⁴⁷ The rollback period is three years (rather than the five-year period under 1-d-1).²⁴⁸ The tax is measured by the difference between the taxes actually imposed and the taxes that would have been imposed had the property been taxed at market value.²⁴⁹ This difference is calculated each year and recorded in the tax records for each 1-d property.²⁵⁰ While interest on the rollback tax on 1-d-1 land accrues from the dates the differences in value would have become due each year,²⁵¹ interest on 1-d land is calculated on the total amount of rollback tax as of the year agricultural use stopped or the property was sold.²⁵² The property owner has one full business day after triggering the rollback to pay it without accruing interest, or the owner must pay 1 percent interest per month from the rollback date. The total amount of additional taxes for the three years plus interest becomes due in the year that the event triggering the rollback occurs.²⁵³ These taxes and interest become delinquent and incur penalties and interest as provided by law for ad valorem taxes.²⁵⁴

Rollback Notification

The chief appraiser determines whether land has been diverted to a nonagricultural use and is subject to a rollback tax.²⁵⁵

If the land is owned by an individual 65 years of age or older, before making a determination that the land has been diverted to a nonagricultural use the chief appraiser must notify the property owner in writing that the chief appraiser believes the land may have been diverted to a nonagricultural use. The notice must include a form on which the property owner may indicate that he or she remains entitled to have the land designated for agricultural use and a self-addressed, postage prepaid envelope with instructions for returning the form to the chief appraiser. The chief appraiser must consider the property owner's response on the form in determining whether the land has been diverted to a nonagricultural use. If the chief appraiser does not receive a response on or before the 60th day after the date the notice is mailed, the chief appraiser must make a reasonable effort to locate the property owner and determine whether he or she remains entitled to have the land designated for agricultural use before determining that the land has been diverted to a nonagricultural use. A reasonable effort includes sending an additional notice to the property owner immediately after the expiration of the 60-day period by first-class mail in an envelope on which "RETURN SERVICE REQUESTED" is written in all capital letters, or another appropriate statement directing the U.S. Postal Service to return the notice if it is not deliverable as addressed; or providing the additional notice in another manner that the chief appraiser deems appropriate.²⁵⁶

If a chief appraiser determines that land has been diverted to a nonagricultural use, he or she must notify the owner of this determination as soon as possible after making the determination and include in the notice an explanation of the owner's right to protest the determination.²⁵⁷ Appraisal districts may use the Comptroller's model Form 50-789 Notice of Determination Resulting in Additional Taxation.

If the property owner does not protest, the appraisal review board determines a change of use has occurred or if the land is sold, the tax assessor prepares a bill for additional taxes and delivers it to the property owner. The tax is due and becomes delinquent if not paid before the Feb. 1 that is at least 20 days after the bill is mailed. Delinquent taxes and interest on the rollback incur the same penalty and interest

²⁴⁶ Tex. Tax Code §23.46(c)

²⁴⁷ Tex. Tax Code §23.46(d)

²⁴⁸ Tex. Tax Code §§23.46(c) and 23.55(a)

²⁴⁹ Tex. Tax Code §23.46(b) and (c)

²⁵⁰ Tex. Tax Code §23.46(b)

²⁵¹ Tex. Tax Code §23.55(a)

²⁵² Tex. Tax Code §23.46(c)

²⁵³ Tex. Tax Code §23.46(c)

²⁵⁴ Tex. Tax Code §23.46(c)

²⁵⁵ Tex. Tax Code §23.46(c)

²⁵⁶ Tex. Tax Code §23.46(f)

²⁵⁷ Tex. Tax Code §23.46(c)

as ordinary property taxes.²⁵⁸ A tax lien may be foreclosed against the land regardless of personal liability.²⁵⁹

Tax certificates on 1-d property must state that the land is receiving special appraisal and that additional taxes may be imposed.²⁶⁰ There may be disputes between buyers and sellers over who is liable for the tax. These disputes do not involve the tax collector.

Rollback Exceptions

Certain actions are not considered diverting land to a non-agricultural use. Filing a waiver of 1-d appraisal does not constitute a diversion to a nonagricultural use for purposes of the imposition of rollback taxes.²⁶¹ Land is not diverted to a nonagricultural use solely because the owner of the land claims it as part of his or her residence homestead.²⁶² The chief appraiser may not consider any period during which land is owned by the state in determining whether the land has been diverted to a nonagricultural use.²⁶³

1-d and 1-d-1 Rollback Comparison

Generally, the 1-d rollback is similar to the 1-d-1 rollback in the following respects:

- The rollback tax recoups the tax that the property owner would have paid had the land been taxed at market value for the years covered by the rollback.²⁶⁴
- The rollback tax is a new, additional tax imposed on the date the event that triggers it takes place.²⁶⁵
- A tax lien attaches to the land on the date the rollback is triggered.²⁶⁶
- The property owner may use the land as part of his or her residence homestead without triggering a rollback.²⁶⁷
- The chief appraiser determines whether a cessation or change of use has taken place.²⁶⁸
- The chief appraiser may not consider any period during which land is owned by the state in determining whether the land has been diverted to a nonagricultural use.²⁶⁹

²⁵⁸ Tex. Tax Code §§23.46(c)

²⁵⁹ Tex. Tax Code §23.46(d)

²⁶⁰ Tex. Tax Code §§31.08 and 34 Tex. Admin. Code §9.3040(b)

²⁶¹ Tex. Tax Code §23.20(g)

²⁶² Tex. Tax Code §23.46(e)

²⁶³ Tex. Tax Code §23.46(c)

²⁶⁴ Tex. Tax Code §§23.46(c) and 23.55(a)

²⁶⁵ Tex. Tax Code §§23.46(c) and (d) and 23.55(a) and (b)

²⁶⁶ Tex. Tax Code §§23.46(d) and 23.55(b)

²⁶⁷ Tex. Tax Code §§23.46(e) and 23.55(i)

²⁶⁸ Tex. Tax Code §§23.46(c) and 23.55(e)

²⁶⁹ Tex. Tax Code §§23.46(c) and 23.55(a)

Exhibit 12 shows three significant differences between 1-d-1 and 1-d rollbacks.

EXHIBIT 12 Differences between 1-d and 1-d-1 Rollbacks

Element	1-d	1-d-1
Rollback period ¹	3 years	5 years
Interest calculated ²	1 percent per month (or fraction of a month) until paid	7 percent per year from the dates on which the differences would have become due
Sale triggers rollback ³	Yes	No

¹ Tex. Tax Code §§23.46(c) and 23.55(a)

² Tex. Tax Code §§23.46(c) and 23.55(a)

³ Tex. Tax Code §§23.46(c) and 23.55(a)

Rollback Calculation

The 1-d rollback covers the three calendar years preceding the current year. If the use changes in 2016, for example, the rollback covers 2015, 2014 and 2013.

Exhibit 13 demonstrates that the rollback tax is the difference between the total taxes paid on agricultural value over the three-year rollback period and the taxes that would have been paid on the market value of the land.

EXHIBIT 13 Total Rollback Tax

Tax Year	Tax Paid	Tax on Market Value	Difference
2015	\$50	\$500	\$450
2014	50	520	470
2013	50	500	450
Total			\$ 1,370

The property owner has a grace period of one full business day to pay the rollback taxes free of interest; after the grace period, the rollback tax accrues interest. For example, if land is sold on Nov. 1, 2016, the new property owner can pay the rollback tax on Nov. 2 with no interest. On Nov. 3, the tax begins to accrue interest.

Suppose the property owner does not pay the rollback tax until Jan. 1, 2017. The tax has accrued interest for the months of November, December and January. **Exhibit 14** shows how to calculate the interest.

EXHIBIT 14
Calculating Interest

The amount due is calculated as follows:

$$\begin{array}{r}
 \$1,370 \times .03 \text{ (1 percent interest for three months)} = \$41.10 \text{ interest} \\
 + \quad 1,370.00 \text{ additional tax} \\
 \hline
 \mathbf{\$1,411.10 \text{ total due}}
 \end{array}$$

If the property did not receive 1-d appraisal in one of the three preceding years, there is no rollback tax liability for that year.

Combining 1-d and 1-d-1 Rollbacks

Property owners occasionally switch from one type of designation to the other. If the property owner switches from 1-d to 1-d-1 designation or from 1-d-1 to 1-d, no rollback occurs, but if the property owner switches from one designation to the other and then takes the property out of agricultural use, a rollback is triggered for both designations. **Exhibit 15** demonstrates how to calculate these rollbacks.

Suppose the property owner received a 1-d agricultural use designation in 2011, 2012 and 2013; a 1-d-1 designation in 2014, 2015 and 2016; and then changed the land use on Nov. 1, 2016.

EXHIBIT 15
1-d-1 and 1-d Rollbacks

1-d-1: Preceding Five Years

Year	Rollback Information
2015	Rollback tax + 7 percent interest from Oct. 1, 2015 (or date tax bill was mailed) to Nov. 1, 2016
2014	Rollback tax + 7 percent interest from Oct. 1, 2014 (or date tax bill was mailed) to Nov. 1, 2016
2013-2011	No rollback; land was not under 1-d-1 in these years.

1-d: Preceding Three Years

Year	Rollback Information
2015-2014	No rollback; land was not under 1-d in these years.
2013	Rollback; tax accrues interest at 1 percent per month unless paid on or before Nov. 2, 2016.
2012-2011	No rollback; 1-d designation covers only three years.

Because the 1-d rollback covers only three years, there is no rollback on 1-d designation in the fourth and fifth preceding years. If the property owner had switched to 1-d-1 in 2013 instead of 2014, he or she would have paid 1-d-1 rollback taxes for 2015-2013 and no 1-d rollback taxes.

The same principles apply should the property owner switch from 1-d-1 to 1-d and change the use. If the property owner sells the property, a 1-d rollback may be triggered without triggering a 1-d-1 rollback. Suppose the example above was reversed. The property received 1-d-1 designation for 2011-2013 and 1-d designation for 2014-2016. The property sells on Nov. 1, 2016, but there is no change of use. There is no 1-d-1 rollback; the 1-d rollback is calculated in **Exhibit 16**.

EXHIBIT 16
1-d Rollback Calculations

Year	Rollback Calculation
2015	Rollback tax accrues interest at 1 percent per month unless paid on or before Nov. 2, 2016.
2014	Rollback tax accrues interest at 1 percent per month unless paid on or before Nov. 2, 2016.
2013-2011	No rollback tax; property was under 1-d-1 and sale does not trigger 1-d-1 rollback.

Appendix A

Questions and Answers About 1-d-1 Qualification

The following examples describe practical problems in the qualification of land for agricultural appraisal and should help tax administrators understand the principles behind qualifying land for special appraisal.

Question 1

A property owner acquired four contiguous tracts over the years. The tracts are not divided by fences; in fact, they are used together as a single ranch operation. How should the property owner file the application(s) for special appraisal as 1-d-1 land?

The property owner should file one application covering all four tracts. Even if the tracts appear as individual accounts in the appraisal records and on the appraisal roll, the property owner's use of the tracts together, in a single agricultural operation, means only a single application needs to be filed. Property owners should file a single application if the parcels making up a single agricultural operation are not contiguous.

Both property owners and appraisal districts need to be alert to the possibility that a particular parcel may be used as part of a larger operation. Appraisal districts should inform potential applicants and applicants should point out larger uses to the appraisal district.

Question 2

The chief appraiser in an appraisal district established a blanket policy that no parcel smaller than 10 acres in size may qualify for special agricultural appraisal. A property owner has an orchard that has 9.5 acres of pecan trees. May this tract qualify?

Any policy that establishes arbitrary minimum sizes for acreage is invalid, but a policy of following guidelines that include minimum tract sizes for each class or subclass of land, based on the principal uses of the tracts and upon the general intensity of a typical operation in the area, is probably valid.

The chief appraiser cannot fix a totally arbitrary limit on parcel size. Smaller tracts of land that meet the statutory requirements may still qualify. The orchard land could qualify for agricultural appraisal if it is being used to the intensity typical in the area.

There is no minimum or maximum amount of acreage that may qualify for special appraisal (except for bee-keeping). Obviously, tethering a cow, keeping a chicken coop or raising a small pen of goats cannot by itself qualify land as having an agricultural use. There must be a use that is "to the degree of intensity typical in the area" and a use that is "principally...agricultural." In many cases, smaller tracts do not qualify under the statutes.

The chief appraiser must become extremely familiar with agricultural activities in the area. He or she may create guidelines using minimum size restrictions but only if they relate to the proper agricultural economy of land. For example, a chief appraiser may determine that, based on the type of land and soil prevalent within the appraisal district, it takes 22 acres of grazing land to support one animal unit. Persons having less than the minimum acreage under continuous use probably could not qualify for special appraisal. This land should be reviewed carefully before agricultural use appraisal is granted.

There are many bona fide agricultural pursuits that can take place on small tracts: vineyards, orchards or specialty crops like strawberries, herbs and row vegetables. For these types of products, the minimum agricultural size of the tracts could be quite small. Growing tomatoes and cucumbers in a backyard garden does not mean that the land is a farm. Having a cow and calf penned in a small enclosure does not make the land a ranch.

Question 3

After several years of losing money on failed crops, a property owner decides to place acreage in a federal farm subsidy program. Under the program, the farmer is only permitted to grow cover crops. He or she receives payments for participation in the program. The farmer's land has qualified for 1-d-1 appraisal for several years. Does the land still qualify?

Yes. Participation in a government program to reduce production does not bar agricultural appraisal under Section 1-d-1.

Question 4

After several years of losing money on failed crops, a property owner decides to let the land lie idle. He or she plants clover on the land but does not participate in any farm subsidy program. The land qualified for 1-d-1 agricultural appraisal in prior years. The normal period for crop rotation for the type of crop and soil is only one year. Now that the land has been taken out of production for a particular crop without joining a governmental program, does the land qualify?

The tract will lose its qualification and suffer a rollback at the beginning of the second year that the land is idle. A farmer may still receive agricultural appraisal under 1-d-1 for taking the land out of production for an acceptable period to rejuvenate the soil. In this example, the rotation period is one year. By the second year, the land has been out of production for too long. The land is not being used for an agricultural purpose to the degree of intensity typical in the area in that year. For other types of crops, the rotation period could be shorter or longer. The land would qualify until it has been out of production longer than the normal rotation period for that crop. Keeping the land out of production longer than normal causes loss of agricultural use appraisal and triggers the rollback.

Question 5

A landowner has a large unfenced acreage tract where deer and other native wildlife roam and eat natural vegetation. The land is leased for deer hunting, and the property owner receives \$5,000 per year from the leases and \$10,000 per year from mineral interests and Social Security benefits. Does the tract qualify?

No. Permitting wild deer to eat natural vegetation is not an agricultural use. The property owner cannot show that the land is used for an agricultural activity. The property owner failed to perform any affirmative act that meets the statutory definition of agricultural use.

Had the property owner qualified, however, only the income from the land would be considered. Mineral interests are separately appraised at market value. The income from minerals is not taken into account for purposes of calculating net to land.

Question 6

A property owner has been digging up yaupon bushes that are growing wild on the land and sells the bushes to a retail nursery for use in residential landscaping. Does the land qualify?

No. If all the property owner does is dig up wild bushes, he or she is not engaged in agriculture. To qualify, a person should be able to point to affirmative acts that indicate growing of nursery stock — tilling soil, propagating plants, trimming and selectively harvesting.

Question 7

A property owner has a large tract populated by wild quail and pheasant. The property owner does not grow anything or graze cattle but leases the land for hunting purposes. Does the tract qualify?

No. The primary use of this land is for recreational purposes. Wild animals surviving on natural ground cover are not livestock. No agricultural function is being performed on the land.

Question 8

A farmer's land is solely devoted to raising dairy cattle and processing milk. Most of the land is used for grazing cattle, but barns, sheds and other buildings used for milking, storing hay and repairing equipment occupy 10 acres. A pasteurizing and bottling plant occupies four acres. What part, if any, of the buildings or land qualifies for special appraisal?

The buildings must be appraised separately at their market value because only land receives agricultural appraisal. Land includes appurtenances such as private roads, dams, canals, ditches, stock tanks and other reshaping of the soil.

The land beneath farm outbuildings may receive agricultural appraisal when that area contributes to the production of primary agricultural products on the entire tract. Almost every farm or ranch requires some land for storage of the equipment, feed, seed or other necessary items used in the agricultural operation. Without equipment and supplies, there could be no agricultural use anywhere on the tract. The 10 acres used for barns, storage, milking and repair qualify for agricultural appraisal. The four acres used for pasteurizing and bottling milk do not qualify since those activities constitute processing of primary products.

Appraisers should distinguish between the value of the structures and the value of the personal property within them such as milking machines, tractors, etc. Implements of husbandry are not taxed. Any machinery used to process milk, such as the pasteurizing and bottling equipment, is not an implement of husbandry and is taxed at its market value.

Question 9

A property owner maintains a number of bee hives over six acres. The honey is sold as a commercial venture. Do the six acres qualify?

Yes. Land used to raise and keep bees for pollination or for the production of commercial products qualifies as land used for an agricultural purpose. The owner would also have to meet the intensity standards for the particular appraisal district. The land used must not be less than five acres or more than 20 acres.

Question 10

A landowner grows poinsettias on his or her land. By early November of each year, the poinsettias are shipped to markets for sale during the Christmas season. The farmer grows lilies and ferns in a nursery and sells them to local florists all year long. Does this tract qualify?

Yes. The tract qualifies if it meets the primary use and degree of intensity tests. The cultivation of these plants and other ornamental or flowering plants raised in a nursery qualifies the owner's land for 1-d-1 appraisal as long as the process meets the degree of intensity test. Floriculture is an appropriate agricultural use for 1-d-1 designation.

Question 11

A landowner grows roses in a commercial operation. Some rose bushes are sold wholesale to dealers, and others are sold directly to the public. A blizzard killed all of the rose bushes and eroded some of the land. As a result, as of Jan. 1 there was no actual cultivation of the land, but the property owner replanted in the spring. Does the tract qualify?

Yes. Growing roses for profit is an appropriate agricultural use if it meets the primary use and degree of intensity tests. It does not matter that there was not actual cultivation on Jan. 1.

Land can still be devoted principally to agricultural use in a given year even if it is not being actually used for an agricultural purpose on Jan. 1. Based on the rose grower's past use of land, intent to re-establish the rose beds and, most important, an active return to growing rosebushes after the winter is over, land is devoted to floriculture that year.

The chief appraiser must examine available evidence and decide whether land is currently devoted principally to agricultural use.

Question 12

A property owner plants grapevines, intending to eventually sell grapes to a domestic winery. Over the course of six years he or she has planted hundreds of acres of vineyards. So far, the owner has not realized any income because the vines were too immature. Does the tract qualify?

Yes. Many types of operations require more than a year before a crop can be harvested. The question is whether the preparations meet typical degree of intensity tests. Profit is not really relevant as 1-d-1 has no requirement for income and profit; 1-d only requires that the property owner intend to produce income.

Question 13

A 70-acre fenced tract is, by deed, a single tract. For the past five years, the property owner cultivated a vegetable garden on three acres and small grains on 17 acres. The remaining 50 acres is used for fishing, swimming and camping by family and friends. Does the tract qualify?

The 50 acres used for recreational and sporting purposes clearly cannot qualify because there is no current agricultural use. The chief appraiser should deny the application on the 50 acres. In order to determine whether the 20 acres used to grow vegetables and small grains qualifies, the chief appraiser should request information on the specific crops grown, the amounts harvested and the agricultural and management practices employed. This information should enable the chief appraiser to determine whether the 20 acres are worked to the degree of intensity a prudent operator would work them.

The initial burden of proving land's agricultural qualifications rests on the applicant.

Question 14

A property owner uses land for the commercial breeding and raising of catfish. The operation includes a series of large fish tanks (man-made ponds) where the different sized fish are kept. Does any or all of this tract qualify for special appraisal?

Yes. All of the land used primarily for fish production qualifies for agricultural appraisal, assuming it meets the degree of intensity test. The Texas Attorney General has ruled that fish farming qualifies as an agricultural use of land.²⁷⁰ However, the mere harvesting of fish or shellfish from the natural environment, such as capturing shellfish from saltwater tidelands, does not qualify. The difference is that there must be an actual land-based operation that encloses or domesticates the fish.

²⁷⁰ Op. Tex. Att'y Gen. No. JM-87 (1983)

The tanks themselves are included in the special appraisal as appurtenances to the land. The ponds are only reshapings of the soil and not improvements affixed to the soil. Their value is included in the land value. Any other kind of structure or fixture — a hatching house, pumping station or other structure — is an improvement and is appraised separately at market value.

Question 15

A farmer owns many acres of land upon which grow Christmas trees. The entire tract is devoted to raising the trees to be sold each year for profit. Does the tract qualify?

Yes. The tract qualifies if it meets the degree of intensity requirements. The Christmas trees qualify as an appropriate agricultural use. The trees are ornamental plants and the statute permits special appraisal of land used for horticulture.

Question 16

A farmer grows many acres of Saint Augustine and other lawn grasses that are cut and sold as sod. Does the sod farm qualify for agricultural appraisal?

Yes, if the tract meets the degree of intensity requirement. Growing sod falls within the definition of an agricultural use as horticulture, i.e., growing ornamental plants.

Sod production may not fit readily into typical classifications like cropland or native pastureland. The economics of sod production, such as the irrigation systems, higher maintenance and labor effort and typically higher per-acre income, may require the chief appraiser to develop a separate class more specific to sod farms.

Question 17

Land is used for growing peaches in a commercial-scale operation. Is the land eligible for productivity appraisal, and how are the peaches or trees listed in the property records?

Yes, the land may receive productivity appraisal. The trees are part of the land and are included in the agricultural appraisal as appurtenances to land. The peaches are part of the land until harvest when they become personal property. Remember that farm products are exempt when in the hands of the producer.

Question 18

A property owner has a large tract containing a large herd of axis deer. The deer are enclosed by a security fence more than six feet tall. At scheduled times throughout the year, young deer are harvested. The meat and hides are sold to commercial dealers for human use and consumption. The property owner permits recreational hunting when the herd size becomes unmanageable. Does the tract qualify for special use appraisal?

Yes. All of the land associated with the grazing, breeding and harvesting of the axis deer qualifies if it is used to the degree of intensity that is typical of area agricultural operations. The size of the herd, the security fencing and the fact that the ranch is a commercial operation indicate that the land is used to the degree of intensity typical in the area.

Although recreational hunting is permitted to control herd size, the primary use of the ranch is agricultural. The year-round harvesting schedules and the herd management and harvesting procedures that emphasize desirable agricultural products over recreational products are some proof that the primary use is agricultural.

Question 19

Thoroughbred horses are bred and raised on a 500-acre tract of land. The horses graze on 450 acres; 40 acres are used to raise grain to feed the horses; and a stable where the horses and supplies related to them are kept occupies five acres. Another five acres are set aside for training the horses to race and includes a running track. The land is primarily used to breed and raise horses and is used to the degree of intensity typical for the area. May all or part of the land qualify for special use appraisal?

The 490 acres upon which the horses are bred and grazed and where feed for them is grown qualifies. This land is used directly for raising, breeding and supporting horses — all agricultural uses. The five acres of land holding the stables qualifies because this area is used to support the raising of horses. The five acres of land where the horses are trained for racing does not qualify because it is not an agricultural use of land.

Question 20

A small tract is used to board horses used by their owners for pleasure riding and show competition. The land has a riding ring, and the remaining land is available for pleasure riding. The property owner does not graze the horses on the land. May the land qualify for a special use appraisal?

None of the land qualifies for 1-d-1 appraisal. The use of this land is for recreational purposes, not agricultural or “farm or ranch” purposes.

Question 21

A rancher grazes cattle over a large tract and devotes the majority of time and resources to raising cattle and growing feed for them. During part of the year, the property is leased for hunting wild game and game birds. Although the rancher principally devotes the land to cattle ranching, the income from the hunting leases is substantially greater than the income from cattle ranching. Does the tract qualify for agricultural appraisal?

Yes, the land qualifies. For 1-d-1, determining the primary use of land usually does not have much to do with measuring or comparing income derived from each use. The property owner’s intent and commitment of energy and resources over a period of time are more accurate indicators of the primary use of the land.

Question 22

A 40-acre tract of land is categorized as native pasture. A creek runs through the upper right corner of the property, separating 5 acres from the rest of the property. The livestock are not able to readily access the 5 acres when the creek is full. How could these 5 acres be classified?

With the 35 acres being appraised as native pasture, a chief appraiser could choose to classify the remaining 5 acres as wasteland. Wasteland is one of the six statutorily listed land categories. Local appraisal districts are free to create additional categories according to the facts of each situation.

Appendix B

Estimating Lease Terms From Owner-Operator Budgets

When appraisers cannot find data on comparable leases or are dealing with a highly unusual land class such as a fish farm or a commercial poultry operation, the owner-operator budget method may enable them to develop an estimated net operating income. On the basis of this net income, they should then estimate the cash amount or share for which a prudent operator would lease the property. The estimated lease is the net to land value.

The owner-operator budget method involves five basic steps:

1. Collect information on the gross income that a prudently managed agricultural operation in the subject class would generate.
2. Estimate and subtract the typical production expenses involved in a prudent operation. The result is the net operating income.
3. Determine the amount a prudent owner would receive for leasing land capable of producing that estimated income. The estimated lease amount is the net to land value.
4. Repeat the preceding steps for each year of the five-year qualifying period.
5. Average the five estimated net to land values, then capitalize the average into an indicated value.

Estimating the gross income for the subject land class requires appraisers to determine the typical crop mixture or stocking ratio for such properties and the income the property would typically generate from other sources, such as hunting leases or government programs. Multiplying the estimated yield per acre times the estimated price times the percentage planted produces gross income. Where operators typically grow more than one crop or mix livestock and stocking ratios within a land class or subclass, the gross income should be weighted to reflect the practices a prudent operator would employ.

After estimating the gross income, appraisers should estimate and subtract the expenses that a typical, prudent operator would incur. This expense estimate bears no relation to the expenses shown on an operating statement for income tax purposes. Appraisers should only estimate and deduct those expenses necessary to the ongoing agricultural operation. They should not, for example, deduct any amount for debt service, nor should they deduct income taxes or depreciation of non-typical equipment or improvements.

In general, expenses include such things as feed, seed, fertilizer, harvesting and labor costs, fuel and property taxes assessed on agricultural land. In some areas of the state, water depletion may constitute a legitimate deduction. Appraisers should allow for depreciation of agricultural equipment and appurtenances using accepted appraisal practices. They should not use accelerated depreciation figures shown on income tax returns. Appraisers should estimate and deduct an amount for management expenses. Typically, this expense is shown as a percentage of the gross income. Appraisers should base the exact percentage on the typical conditions in the area.

Subtracting estimated expenses from estimated gross income yields the net operating income. On the basis of this estimate, the appraiser should determine the typical lease payment that a prudent landowner would require. Comparing the estimated net income for the subject category to estimated net incomes developed from lease information for other land categories should enable the appraiser to complete this step. Once it is completed, averaging and capitalization are simple mathematical processes.

Appraisers should not use the owner-operator budget method as a substitute for the cash lease and share lease methods. The law specifies the lease methods that may be used.²⁷¹

²⁷¹ Tex. Tax Code §23.51(4)

Appendix C

Sample Development of Class Values

The following example is intended to demonstrate some of the steps required to develop agricultural productivity values. This example may not include all steps required by a particular appraisal district because of the wide diversification of agriculture in Texas. In many cases, the methods presented in this example may not be the most appropriate methods of determining productivity values. Appraisers should review all information and carefully select the most reliable method of calculating productivity values for each individual case.

The County

The assignment is to develop agricultural productivity values for Ferguson County. The county has 495,800 acres of land qualifying for agricultural appraisal, most of which is either dry cropland or rangeland. The dry cropland is distributed throughout the county with a heavier concentration located in the southern half. Native pasture and improved pasture land are distributed throughout the county. In the extreme southwest corner of the county, a small but significant number of acres are irrigated.

The terrain varies. Willow River runs from the northwest corner, through the central portion and out the eastern part of the county. The northern half of the county is predominantly rolling. In the northwestern corner, some very steep rocky canyons run into the Willow River. South of the river, the terrain is rolling with some areas nearly level.

Ferguson County Acreage Distribution

Area	Acres
Native Pasture (NP)	257,816
Improved Pasture (IP)	34,706
Dry Cropland (DC)	198,320
Irrigated Cropland (IC)	4,958

Native Pasture

Cattle along with a smaller number of sheep are the main products of native pasture in Ferguson County. Some feeder cattle are pastured on native grass before being placed on small grain fields for winter grazing.

Classification of native range is based on how well the soil produces grazing for cattle and sheep. Soils differ in their capacity to produce native vegetation and are grouped into range sites according to this difference. The Natural Resources Conservation Service's Soil Survey indicates that Ferguson County has 17 range sites that are grouped into six subclasses according to estimated average yield per acre of air-dry herbage. The estimated yield is the average of the potential yield in favorable and unfavorable years.

Appendix D, Figure 5 shows the soil classification process. Soils are grouped according to their potential average herbage yield per acre per year. Each subclass is assigned an index number placing it in numerical relation to the most common land subclass. Soils grouped into the bottomland and deep upland range sites are classified in the best or highest native pasture subclass. Subclass 3 is assigned an index of 100 because it is the most common. The following chart shows the land subclass, potential average herbage yield and index number:

Land Class	Potential Average Yield (lbs.)	Index Number
1	4400-4600	150
2	3400-3700	120
3	2800-3100	100
4	2250-2500	80
5	1900-2000	65
6	900-1300	40

Because Land Class Number 1 is approximately 50 percent more productive than the most common class (Land Class 3), it receives an index number of 150.

To determine grazing income, 10 cash leases of native pasture were collected. These leases ranged from \$4.00 acre to \$8.00 acre. Two of the 10 leases are of land which is predominately Land Class 3 (NP3). Lease 1 contains 105 acres of NP3 and five acres of NP1; it leased for \$605 or \$5.50 acre. Lease 2 is a 212-acre tract that leased for \$1,166 or \$5.50 acre. It is made up of 198 acres of NP3 and 14 acres of NP4.

Based upon the 10 leases, it is estimated that NP3 would lease for \$5.50 acre. The \$5.50 acre is adjusted by each land class productivity index to determine a lease rate for each land class. Based on the index of 150 percent, NP1 is assigned a lease rate of \$8.25 ($\$5.50 \text{ acre} \times 1.50 = \8.25 acre). All other land classes are assigned lease rates using the same method. **Appendix D**, Figure 6 illustrates estimated prices per acre.

The analysis shows that the estimated lease rates were reasonably comparable to the actual lease rates in eight of the 10 leases. In two cases, the estimated lease rates were not comparable. Based on these results, it appears that the schedule developed by the appraiser is reasonably accurate and should be used as the leasing rates for each land class.

In Ferguson County, landowners typically lease native pasture for hunting. The typical lease rate is \$2.00 per acre for all land classes. At this lease rate, the hunters provide their own lodging. If the landowner provides lodging, the lease rates increase.

After reviewing all available information, it is determined that the typical landowner incurs only the expenses of property taxes and depreciation on fences.

The depreciation of fences is calculated by dividing the estimated cost of fences on a typical tract of land by the number of acres within the tract, then dividing the result by the expected life of the fence.

In Ferguson County, the typical tract of land is 640 acres, divided into two or more smaller tracts or pastures. The typical amount of fencing on a tract this size is four miles of outside fencing and approximately two miles of inside or cross fencing. The appraiser determines that it costs \$3,000 a mile to have a fence built in

Ferguson County and that the typical life expectancy is 25 years. Only one-half of the cost of outside fencing is attributed to the tract of land, the other half is attributed to the tract across the fence.

Calculating the Depreciation of Fences per Acre			
Outside Fence	4 miles X \$3,000/mile	= 12,000÷2	= \$ 6,000
Inside Fence	2 miles X \$3,000/mile	=	6,000
Total Cost			= \$ 12,000
$\$12,000 \div 640 \text{ acres} = \$18.75 \text{ per acre} \div 25 \text{ years} = \$.75 \text{ per acre per year}$			

The property tax expense is based on the agricultural productivity value. The actual tax expense for the year being calculated should be used for each subclass.

The tax expenses in 2014 for the different land classes are:

NP1 = .65
NP2 = .53
NP3 = .45
NP4 = .38
NP5 = .32
NP6 = .22

The final net to land values for native pasture are developed by subtracting total expenses from gross income. **Appendix D**, Figure 7 shows the estimated 2014 net to land values for each subclass and the productivity value, assuming the 2014 net to land value equals the five-year average (2010-2014).

Improved Pasture

Ferguson County contains 34,706 acres of improved pasture. The most important grasses are Coastal Bermuda Grass and Klein Grass. Most of the improved pasture land is converted cropland within larger ranch properties. Because the improved pasture is usually included with other land classes under one lease, very little lease information is available. The one available cash lease for improved pasture indicates \$12.50 per acre.

Comparing this lease to three leases where native pasture is mixed with a significant amount of improved pasture enables us to develop the net to land value for improved pasture. To adjust the mixed leases, the appraiser uses the schedule already developed to determine how much of the lease payment can be attributed to native pasture. Subtracting the native pasture lease amount from the total for each lease leaves the improved pasture portion of the lease payment. See **Appendix D**, Figure 8.

In the calculation, the number of acres within each native pasture subclass is multiplied by the corresponding lease rate developed in the native pasture section. The total native pasture contribution (the sum of the subclasses) is subtracted from the total lease amount to determine an improved pasture amount. Dividing the improved pasture amount by the improved pasture acreage yields the improved pasture lease rate per acre. The resulting lease rates for improved pasture are \$10.03 acre, \$12.26 acre and \$11.90 acre, all lower but close to the cash lease rate of \$12.50 acre.

With the cash lease of \$12.50 acre and the estimated lease rates of \$10.03 acre, \$12.26 acre and \$11.90 acre, the appraiser can determine that the typical leasing rate for improved pasture is \$12.25 acre. More emphasis is placed on the single cash lease, but the typical lease rate is lowered because of the other leases.

Because of the relatively homogeneous nature of the soils within this land class, no subclasses are used. The net to land value is based on the grazing income minus fence depreciation and taxes. Very little hunting income or expenses are attributed to improved pasture, so these are not included in this calculation.

The 2014 net to land value calculation for Ferguson County's improved pasture land is:

$$\text{Net to Land Value} = \$12.25 - .75 - .81 = \$10.69$$

Dry Cropland

There are 198,320 acres of dry cropland in Ferguson County. Most of the cropland is planted in wheat, grain sorghum or cotton. The majority of farmers participate in government farm programs for these crops.

Dry cropland acreage is classified according to its ability to produce the three common crops: wheat, grain sorghum or cotton. The NRCS soil survey provides the estimated yields for each soil type. Soil types with similar yields are grouped together to form dry cropland subclasses. The typical yields for the most common soils types are assigned an index of 100. All other yield estimates are indexed to these yields. The 100-index yields are wheat, 15 bushels per acre; grain sorghum, 15 hundredweight per acre; and cotton, 200 pounds per acre. **Appendix D**, Figure 9 shows dry cropland subclasses.

Most dry cropland leases in Ferguson County are share leases. In the typical wheat lease, the landowner receives one-third of gross income and shares in one-third of the fertilizer, harvest and hauling costs. In a typical grain sorghum lease, the landowner receives one-third of gross income and shares one-third of the fertilizer, insecticide, harvest and hauling expenses. In a cotton lease, the landowner shares in one-quarter of the gross income and pays one-quarter of the fertilizer, herbicide, ginning, bagging and tying costs. In all leases, the landowner is responsible for property taxes.

Since Ferguson County farmers typically participate in a federal government program, this income is included to calculate net to land value. The local Farm Service Agency (FSA) office administers the government programs and offers the data necessary to include this income in the calculation of net to land value.

After consulting with the FSA office, it is determined that the typical farmer in Ferguson County chose to enroll wheat and grain sorghum acres in ARC. For the 2014 crop year there was a payment to farmers enrolled in ARC for grain sorghum, but not for wheat. This income should be included.

The calculation of net to land value for dry cropland in Ferguson County required that share lease budgets for each of the three principal crops be developed for each of five years.

Appendix D, Figures 10 to 13, shows the 2014 share lease budget for each crop. In 2014, land planted in wheat generated income from the harvested wheat and the grazing of that land.

To develop a final 2014 net to land value for dry cropland, each crop's net to land value is weighted by its crop-mixture percentage. Crop mixture is the percentage that each individual crop comprises of the total planted acres.

2014 Crop Mix Calculation of Net to Land Value

Crop	Acres Planted	Crop Mix		Net to Land Value		Contribution
Wheat	78,800	.43	x	\$ 18.13	=	\$ 7.80
Grain Sorghum	59,700	.32	x	5.16	=	1.65
Cotton	45,800	.25	x	10.42	=	2.61
Total	184,300	1.00				\$ 12.06

The net to land values for the years 2010-2014 were averaged to determine the final net to land value.

2010	—	\$16.01
2011	—	\$18.76
2012	—	\$20.85
2013	—	\$11.53
2014	—	<u>\$12.06</u>
		\$79.21 ÷ 5 = \$15.84

The calculated net to land value of \$15.84 is our base net to land value. To develop the schedule of agricultural values, the base net to land value is adjusted by the subclass index; then the adjusted net to land value is divided by the capitalization rate. **Appendix D**, Figure 14 shows the calculations.

Irrigated Cropland

There are only 4,958 acres of irrigated cropland within Ferguson County. All of this acreage is located in the southwest corner of the county. This area consists of approximately 16,000 total acres of irrigated land and extends into the counties to the west and south. All of the irrigated land in Ferguson County is farmed by the landowner except 480 acres, which is cash leased for \$40 per acre. In the neighboring counties, both cash and share leases are used. Only a small number of share leases were available. Variations within the leases made it difficult to determine a typical share lease for any crop. Cash lease information provides the most reliable indication for calculating net to land values.

The cash leases collected in adjoining counties show lease rates similar to the one in Ferguson County. In Deere County, three leases indicate rates of \$40 acre, \$45 acre and \$50 acre. In Case County, two leases have rates of \$35 acre and \$45 acre.

The irrigated cropland class is divided into three subclasses in the same way the dry cropland class was divided into subclasses. **Appendix D**, Figure 15 shows irrigated cropland subclasses.

Using the method illustrated in the native pasture section, the leases are analyzed to determine a net to land value for each subclass. **Appendix D**, Figure 16 shows the analysis of irrigated cropland.

The analysis of the cash leases shows that the schedule of \$52 acre for IC1, \$40 acre for IC2 and \$32 acre for IC3 is fairly accurate. The only costs attributed to the landowner under these leases are the property taxes and the depreciation on the water wells. The estimated property tax is \$3.30 for IC1, \$2.50 for IC2 and \$2.20 for IC3. The depreciation on the wells is \$5.00 per year. Below is the irrigated cropland schedule assuming the 2014 net to land value equaled the average of the five base years (2010-2014).

Irrigated Cropland Schedule

Land Class	Lease Rate	Well Depreciation	Taxes	Net to Land Value	Capitalization Rate	Ag Use Value
IC1	\$52.00	5.00	3.30	43.70	.1000	\$437.00
IC2	\$40.00	5.00	2.50	32.50	.1000	\$325.00
IC3	\$32.00	5.00	2.20	24.80	.1000	\$248.00

Individual Property Appraisal

Mr. John Ford's farm and ranch is fairly typical of Ferguson County. Mr. Ford's place is located approximately 6.4 miles southeast of the city of Massie in the J. White survey. Mr. Ford owns 780 acres, of which 429 acres are native pasture, 51 acres are improved pasture and 300 acres are dry cropland. Each of these classes of land is classified according to the classification schedules.

Acreage Breakdown by Class

Native Pasture		Improved Pasture		Dry Cropland	
Subclass	Acres	Subclass	Acres	Subclass	Acres
NP1	0	IP1	51	DC1	90
NP2	135	-	0	DC2	175
NP3	158	-	0	DC3	35
NP4	103	-	0	DC4	0
NP5	33	-	0	DC5	0
NP6	0	-	0	-	0

Mr. Ford's property was appraised by simply multiplying the acreage within each subclass by the corresponding agricultural value.

Land Class	Acreage	Ag Value Per Acre	Ag Value
NP2	135	\$ 73.20	\$ 9,882.00
NP3	158	63.00	9,954.00
NP4	103	52.70	5,428.10
NP5	33	45.10	1,488.30
IP1	51	106.90	5,451.90
DC1	90	213.80	19,242.00
DC2	175	190.10	33,267.50
DC3	35	158.40	5,544.00

The appraised agricultural value of Mr. Ford's property is \$90,257.80.

Appendix D

Figures

Figure 1	Cash Lease Example
Figure 2	Five-Year Average Net to Land Values
Figure 3	Share Lease Information Questionnaire
Figure 4	Share Lease Agreement
Figure 5	Classification of Native Pasture
Figure 6	Native Pasture Estimated Price Per Acre
Figure 7	Calculation of Productivity Values
Figure 8	Net to Land Value for Improved Pastures
Figure 9	Classification of Dry Cropland
Figure 10	County Dry Cropland Statistics
Figure 11	Dry Cropland Wheat
Figure 12	Dry Cropland Grain Sorghum
Figure 13	Dry Cropland Cotton
Figure 14	Agricultural Use Values Per Dry Crop Subclass
Figure 15	Classification of Irrigated Cropland
Figure 16	Net to Land Value for Irrigated Cropland

**FIGURE 1
Cash Lease Example**

Year	Grazing Lease Rates	Hunting Lease Rates	Yields	Typical Rate	–	Typical Owner Expenses	=	Typical Net to Land Value
2010	\$ 5.00 4.75 4.50 4.25	\$ 3.00 3.00 3.00 2.75	} Yields	\$ 7.50	–	{ .50 fence .47 taxes }	=	\$ 6.53
2011	\$ 5.00 4.75 4.75 4.50	\$ 3.00 3.00 3.25 2.50	} Yields	\$ 7.75	–	{ .50 fence .48 taxes }	=	\$ 6.77
2012	\$ 5.00 4.75 4.75 4.50	\$ 3.00 3.00 3.25 2.50	} Yields	\$ 7.75	–	{ .50 fence .48 taxes }	=	\$ 6.77
2013	\$ 5.00 5.00 4.75 5.00	\$ 3.25 3.50 3.25 3.00	} Yields	\$ 8.25	–	{ .50 fence .52 taxes }	=	\$ 7.23
2014	\$ 5.00 4.75 4.75 4.50	\$ 3.00 3.50 3.50 3.50	} Yields	\$ 8.25	–	{ .50 fence .52 taxes }	=	\$ 7.23

FIGURE 2
5-Year Average Net to Land Values

**Land Use Category or Class: Native Pasture
Net Income**

2010	2011	2012	2013	2014	5-year Avg.
\$2.60	\$2.85	\$3.05	\$3.30	\$3.50	\$3.06

FIGURE 3
Share Lease Information Questionnaire
 (completed by property owner)

INSTRUCTIONS. Appraisal records indicate that you own agricultural land leased on a share basis. On the chart below, please indicate the share payment that you receive and the expenses you pay on each crop. Please specify any crops you receive income from that are not listed on the form. If you own agricultural land of a type for which you have not received a form (e.g. irrigated cropland, native pasture, timber), please contact the appraisal district immediately. Your prompt attention to this request will enable the appraisal district to appraise agricultural property more accurately and equitably.

Land Class: Dry Crop

Fill in your share of **INCOME** from each crop (use fractions)

Crop	Grain Sorghum	Wheat	Cotton	(Other)	(Other)
1) Grain/Lint					
2) Government Payment					
3) Grazing					
4) Cotton Seed					
5) Other					

Fill in your share of **VARIABLE EXPENSES** from each crop (use fractions)

Crop	Grain Sorghum	Wheat	Cotton	(Other)	(Other)
Seed					
Fertilizer					
Insecticide					
Herbicide					
Fungicide					
Crop Insurance					
Irrigation Water					
Harvest					
1) Haul					
2) Gin, bag, tie					
Other					
1)					
2)					
3)					

Fill in your share of **FIXED EXPENSES** from each crop (use fractions)

Crop	Grain Sorghum	Wheat	Cotton	(Other)	(Other)
Real Estate Tax					
Wells					
Other					
1)					
2)					
3)					
4)					

FIGURE 4
Share Lease Agreement

	Owner's Share		Quantity		Price Per Unit		Owner's Share
Income							
Grain Sorghum	.333	X	21.65	X	\$8.33 cwt.	=	\$ 60.05
Government Payments	.333	X	1	X	20.40 acre	=	6.79
Total Income							\$ 66.84
Expenses – Variable							
Fertilizer	.333	X	1	X	25.00 acre	=	\$ 8.33
Harvest	.333	X	1	X	10.00 acre	=	3.33
Haul	.333	X	21.65	X	.25 cwt.	=	1.80
Total Variable Expenses							\$ 13.46
Expenses – Fixed							
Property taxes	1.0	X	1	X	1.75 acre	=	\$ 1.75
Total Expenses						=	\$ 15.21
Net to Land Value						=	\$ 51.63 per acre

FIGURE 5
Classification of Native Pasture

Soil Type	Range Site	Acres	Percent	Avg. Herb Yield	Yield Index	Ag Use Class	Productivity Index
Frio Clay Loam	Bottomland	3,403	1.3	4,600	153	I	150
Ligon Clay Loam	Bottomland	2,784	1.1	4,600	153		
Denton Silty Clay 0-1	Deep Upland	3,867	1.5	4,400	147		
Denton Silty Clay 1-3	Deep Upland	4,290	1.7	4,400	147		
Spur Soils	Deep Upland	1,125	0.4	4,400	147		
Tobaso Clay 0-1	Redland	1,870	0.7	3,700	123	II	120
Tobaso Clay 1-3	Redland	17,906	6.9	3,700	123		
Olton Clay Loam	Clay Loam	2,100	0.8	3,600	120		
Angelo Clay Loam 0-1	Clay Loam	8,824	3.4	3,600	120		
Angelo Clay Loam 1-3	Clay Loam	12,117	4.7	3,600	120		
Yohola Clay	Shallow	9,059	3.6	3,500	117		
Kavitt Clay 0-1	Shallow	1,579	0.6	3,500	117		
Kavitt Clay 1-2	Shallow	921	0.4	3,500	117		
Pedernales Loam	Shallow	5,000	1.9	3,500	117		
Pedernales Sandy Loam	Sandy Loam	2,500	1.0	3,400	113		
Paducah Loam	Mixed Land	3,126	1.2	3,100	103	III	100
Randall Clay	Mixed Land	7,592	2.9	3,100	103		
Obaro Loam	Mixed Land	22,408	8.7	3,100	103		
Estacado Loam	Hardland	6,222	2.4	3,000	100		
Zapata Loam	Hardland	3,778	1.5	3,000	100		
Travis Sandy Loam	Sandy	20,445	7.9	3,000	100		
Heatly	Sandy	9,528	3.7	3,000	100		
Tivoli	Sandy	10,027	3.9	3,000	100		
Doss Sandy Loam	Tight Sandy	12,328	4.8	2,800	93		
Merata Sandy Loam	Tight Sandy	7,672	3.0	2,800	93		
Brackett	Adobe	985	0.4	2,500	83	IV	80
Kimbrough	Stoney	3,214	1.2	2,400	80		
Talpa	Stoney	1,786	0.7	2,400	80		
Ozona Assoc.	Shallow Hills	3,000	1.2	2,400	80		
Doss Loam Assoc.	Shallow Hills	13,698	5.3	2,400	80		
Cosh-Latom	Shallow Hills	16,302	6.3	2,250	75		
Bandera Clay	Shallow Hills	10,000	3.9	2,250	75		
Brackett-Tanant	Steep Adobe	6,625	2.5	2,000	67	V	65
Tulia Clay	Hardland	9,444	3.7	1,900	63		
Brooks Clay	Hardland	4,556	1.8	1,900	63		
Segovia Gravelly Loam	Steep Rocky	2,321	0.9	1,300	43	VI	40
Leakey Gravelly Clay	Steep Rocky	4,641	1.8	1,300	43		
Eckert Stony Soils	Stoney Loam	773	0.3	900	30		

FIGURE 6
Native Pasture Estimated Price per Acre

Lease	Lease Amount	Total Acreage	Acreage Per Class						Lease Price Per Acre	Estimated Price Per Acre
			1	2	3	4	5	6		
1	\$ 605	110	5	0	105	0	0	0	\$5.50	\$ 5.63
2	1,166	212	0	0	198	14	0	0	5.50	5.43
3	736	92	75	17	0	0	0	0	8.00	7.95
4	2,240	320	80	201	0	39	0	0	7.00	6.74
5	3,000	640	0	0	286	275	79	0	4.69	4.79
6	2,000	350	0	138	212	0	0	0	5.71	5.93
7	8,200	1,640	0	270	504	325	491	50	5.00	4.79
8	4,750	1,057	0	0	198	623	215	21	4.49	4.40
9	640	160	0	123	37	0	0	0	4.00	6.35
10	1,800	300	0	25	35	240	0	0	6.00	4.71

To calculate the estimated price per acre, multiply the acreage per class times the lease rate below, total the results and divide by the total acreage.

Land Class	Base Rate		Index		Price Per Acre
1	\$ 5.50	x	1.50	=	\$8.25
2	5.50	x	1.20	=	6.60
3	5.50	x	1.00	=	5.50
4	5.50	x	.80	=	4.40
5	5.50	x	.65	=	3.58
6	5.50	x	.40	=	2.20

FIGURE 7
Calculation of Productivity Values

	Income		Expenses				Capitalization						
	Grazing	Hunting	Fence	Taxes	NTL	Cap Rate	Ag Value						
NP1	\$8.25	+	\$2.00	-	\$.75	-	\$.65	=	\$ 8.85	÷	.1000	=	\$ 88.50
NP2	6.60	+	2.00	-	.75	-	.53	=	7.32	÷	.1000	=	73.20
NP3	5.50	+	2.00	-	.75	-	.45	=	6.30	÷	.1000	=	63.00
NP4	4.40	+	2.00	-	.75	-	.38	=	5.27	÷	.1000	=	52.70
NP5	3.58	+	2.00	-	.75	-	.32	=	4.51	÷	.1000	=	45.10
NP6	2.20	+	2.00	-	.75	-	.22	=	3.23	÷	.1000	=	32.30

FIGURE 8
Net to Land Values for Improved Pastures

Lease Number	Lease Amount	Total Acreage	Acreage per Class				IP	NP Lease Amount	IP Lease Amount	IP Per Acre
			NP1	NP2	NP3	NP4				
1	\$ 1,880	280	15	102	0	98	65	\$ 1,228	\$ 652	\$ 10.03
2	2,600	320	40	111	79	0	90	1,497	1,103	12.26
3	7,105	980	70	259	412	39	200	4,725	2,380	11.90

To estimate the lease amount per acre for improved pasture in a mixed lease, use the native pasture lease rates (Figure 6) to estimate the amount attributable to native pasture. Subtracting this amount from the gross lease leaves the improved pasture lease amount. Dividing that amount by the acres of improved pasture gives the rate per acre.

Worksheet, Irrigated Pasture Lease 1

Land Class/ Lease Type	Acreage		Lease		Subtotal
NP1	15	X	\$ 8.25	=	\$ 123.75
NP2	102	X	6.60	=	673.20
NP3	0	X	5.50	=	0.00
NP4	98	X	4.40	=	431.20
Native Pasture Lease				=	\$ 1,228.15
Gross Lease				=	\$ 1,880.00
NP Lease				=	-\$ 1,228.15
IP Lease				=	651.85
IP Lease per Acre				=	651.85 ÷ 65 = \$ 10.03

FIGURE 9
Classification of Dry Cropland

Soil Type	Acres	% of Total	Wheat Yield	Wheat Index	Grain Sorghum	Grain Index	Cotton Yield	Cotton Index	Composite Index	Ag Use Class	Prod. Index.
Spur Soils	6,550	3.3	20	133	2000	133	275	138	135	I	135
Frio Clay Loam	1,338	.7	20	133	2000	133	275	138	135		
Angelo Clay Loam 1-3	9,326	4.7	20	133	1750	117	250	125	125	II	120
Denton Silty Clay 0-1	20,035	10.1	20	133	1750	117	250	125	125		
Ligon Clay Loam	4,368	2.2	20	133	1250	83	250	125	114		
Yohala Clay	912	.5	15	100	2000	133	250	125	120		
Tobasa Clay 0-1	11,899	6.0	20	133	1750	117	225	113	121		
Pedernales	12,899	6.5	15	100	1250	83	200	100	95	III	100
Olton Clay Loam	17,849	9.0	15	100	1500	100	200	100	100		
Tobasa Clay 1-3	6,148	3.1	15	100	1750	117	200	100	106		
Obero Loam	1,597	.8	12	80	1500	100	175	88	90		
Angelo Clay Loam 3-5	9,128	4.6	15	100	1500	100	200	100	100		
Denton Silty Clay 1-3	16,064	8.1	15	100	1500	100	200	100	100		
Paducah Loam	10,114	5.1	15	100	1500	100	200	100	100		
Kavitt Clay 0-1	1,196	.6	15	100	1250	83	200	100	95		
Denton Silty Clay 3-5	1,785	.9	12	80	1250	83	150	75	80	IV	80
Estacado Loam	24,598	12.4	12	80	1250	83	175	88	84		
Kavitt Clay 1-3	13,684	6.9	15	100	1000	67	150	75	80		
Pedernales Sandy	5,955	3.0	15	100	1250	83	150	76	85		
Travis Sandy Loam	4,567	2.3	15	100	1000	67	150	75	80		
Zapata Loam	3,966	2.0	12	80	1000	67	150	75	74		
Abilene Sandy Loam	9,718	4.9	10	67	750	50	150	75	64	V	64
Demonia Fine Sand	4,569	2.3	10	67	750	50	125	63	60		

FIGURE 10
County Dry Cropland Statistics
Share Lease: Ferguson County (2014)

Crop	Acres Planted	Acres Harvested	2014 Yield	Price/Unit
Wheat	78,800	72,000	17.5000	\$ 7.11/bushel
Grain Sorghum	59,700	57,500	1,300.0000	8.33/cwt.
Cotton (lint)	45,800	44,500	175.0000	0.75/lb.
Cotton (seed)	45,800	44,500	0.1354	254.00/ton

ADJUSTED YIELD PER ACRE*

Crop	Acres Harvested	Acres Planted	Percentage Harvested	Yield Per Harvested Acre	Yield Per Planted Acre
Wheat	72,000	78,800	.91	17.5 bu.	15.9 bu.
Grain Sorghum	57,500	59,700	.96	13.0 cwt.	12.48 cwt.
Cotton (lint)	44,500	45,800	.97	175.0 lbs.	169.75 lbs.
Cotton (seed)	44,500	45,800	.97	.1354 tons	.1313 tons

*See Exhibit 5 for an explanation of adjusted yields.

FIGURE 11
Dry Cropland Wheat
Share Lease: Ferguson County (2014)

	Owner's Share		Quantity		Price Per Unit		Owner's Share		
Income									
Wheat	.333	X	15.9	X	\$ 7.11	=	\$ 37.65		
Grazing	.333		1.0	X	24.00	=	7.99		
Government Payment	.333	X	1.0	X	0.00	=	0.00		
Total Income							=	\$45.64	
Expenses – Variable									
Fertilizer	.333	X	1.0	X	\$ 65.00	=	\$ 21.65		
Harvest	.333	X	1.0	X	12.00	=	4.00		
Haul	.333	X	15.9	X	.15	=	.79		
Total Variable Expenses							=	\$ 26.44	
Expenses – Fixed									
Taxes	1.00	X	1.0	X	\$ 1.07	=	\$ 1.07		
Total Cost							=	\$ 27.51	
Net to Land Value							=	\$ 18.13	

FIGURE 12
Dry Cropland Grain Sorghum
Share Lease: Ferguson County (2014)

	Owner's Share		Quantity		Price Per Unit		Owner's Share
Income							
Grain Sorghum	.333	X	12.48	X	\$ 8.33	=	\$ 34.62
Government Payment	.333	X	1.00	X	20.40	=	6.79
Total Income							\$ 41.41
Expenses – Variable							
Fertilizer	.333	X	1.0	X	\$ 87.50	=	\$ 29.14
Insecticide	.333	X	1.0	X	3.00	=	1.00
Harvest	.333	X	1.0	X	12.00	=	4.00
Haul	.333	X	12.48	X	.25	=	1.04
Total Variable Expenses							\$ 35.18
Expenses – Fixed							
Taxes	1.00	X	1.0	X	\$ 1.07	=	\$ 1.07
Total Cost						=	\$ 36.25
Net to Land Value						=	\$ 5.16

FIGURE 13
Dry Cropland Cotton
Share Lease: Ferguson County (2014)

	Owner's Share		Quantity		Price Per Unit		Owner's Share
Income							
Cotton (lint)	.25	X	169.75	X	\$.75	=	\$ 31.83
Cotton (seed)	.25	X	.1313	X	254.00	=	8.34
Total Income							\$ 40.17
Expenses – Variable							
Fertilizer	.25	X	1.0	X	\$ 78.12	=	\$ 19.53
Herbicide	.25	X	1.0	X	23.00	=	5.75
Gin, bag, tie	.25	X	169.75	X	0.08	=	3.40
Total Variable Expenses							\$ 28.68
Expenses – Fixed							
Taxes	1.00	X	1.0	X	\$ 1.07	=	\$ 1.07
Total Cost						=	\$ 29.75
Net to Land Value						=	\$ 10.42

FIGURE 14
Agricultural Use Values Per Dry Crop Subclass

Land Subclass	Base Net to Land Value		Productivity Index		Land Subclass Net to Land Value		Capitalization Rate		Ag Use Value
DC1	\$ 15.84	X	1.35	=	\$ 21.38	÷	.1000	=	\$ 213.80
DC2	15.84	X	1.20	=	19.01	÷	.1000	=	190.10
DC3	15.84	X	1.00	=	15.84	÷	.1000	=	158.40
DC4	15.84	X	.80	=	12.67	÷	.1000	=	126.70
DC5	15.84	X	.64	=	10.14	÷	.1000	=	101.40

FIGURE 15
Classification of Irrigated Cropland

Soil Type	% of Acres	Wheat Total	Wheat Yield	Index	Grain Sorghum	Grain Index	Cotton Yield	Cotton Index	Composite Index	Ag Use Class	Prod. Index
Spur Soils	273	5.5	30	133	3000	120	450	138	130	I	130
Frio Loam	798	16.1	30	133	3250	130	450	138	133		
Tobasa Clay 0-1	154	3.1	30	133	3000	120	425	131	128		
Angelo Clay Loam 1-3	897	18.1	22.5	100	2500	100	325	100	100	II	100
Yohala Clay	764	15.4	25	111	2300	92	325	100	100		
Olton Clay Loam	650	13.1	22.5	100	2300	92	325	100	100		
Tobasa Clay 1-3	203	4.1	22.5	100	2300	100	350	108	100		
Denton Silty Clay 1-3	451	9.1	18	80	2000	80	250	77	80		
Paducah Loam	625	12.6	18	80	2000	80	250	77	80	III	80
Kavitt Clay	143	2.9	18	80	2000	80	275	85	85		

FIGURE 16
Net to Land Value for Irrigated Cropland

County	Lease No.	Lease Amount (\$)	Acreage	Acres Per Class			Lease Price Per Acre (\$)	Estimated Price Per Acre (\$)
				1	2	3		
Ferguson	1	19,200	480	45	375	60	40	40.13
Deere	2	6,400	160	0	160	0	40	40.00
Deere	3	3,600	80	25	35	20	45	41.75
Deere	4	6,000	120	105	15	0	50	50.50
Case	5	3,500	100	0	10	90	35	32.80
Case	6	3,600	80	55	10	15	45	46.75

To calculate the estimated price per acre, multiply the acreage per class times the lease rate below, total the results and divide by total acreage.

Land Class	Base Rate		Index		Estimated Price Per Acre
1	40	X	1.30	=	\$ 52.00
2	40	X	1.00	=	40.00
3	40	X	.80	=	32.00

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