DEDUCTING RESIDUAL (EXCESS) SOIL FERTILITY

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Overview

While the practice has been utilized for some time, the recent increase in farmland values and fertilizer prices has encouraged some farmland buyers to allocate part of the total purchase price of the farmland to fertilizer that the seller applied before the purchase. The same practice may also occur when the owner dies with part of the fair market value of the land at the date of death being allocated to fertilizer that was applied before death. Such an allocation (either upon purchase or upon death) will allow a deduction for the cost of the fertilizer rather than the cost being added to the land's basis. The concept is known as deducting "residual soil fertility" and if the taxpayer can show that fertilizer or nutrients applied to the land are a separate asset that can be distinguished from the soil, and can establish their fair market value, part of the purchase price of the land can be allocated to the fertilizer or nutrients.

Rules for allocation. When a group of assets that constitute a trade or business is purchased, the buyer must use a residual method to allocate the purchase price among the assets. *I.R.C. §1060.* The seller must follow the same allocation rules to report gain or loss. *Id.* Depreciation can be claimed on depreciable assets associated with the farmland starting with the first tax year in which possession of the land is taken. Under I.R.C. §1060 the amount claimed is tied to the portion of the total cost of the farmland that can be allocated to any depreciable asset, such as fencing, field drainage tile, grain storage facilities, farm buildings, and irrigation equipment, just to name a few of the more common depreciable items.

> **Note:** The seller must use the same allocation rules as the buyer to report gain or loss on the sale of a group of assets that constitute a trade or business as defined by Treas. Reg. §1.1060-1(b)(2)(i).
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> **Note:** The IRS implements allocations under I.R.C. §1060 via Form 8594, which both buyer and seller must use. Form 8594 sets forth the allocations to seven classes of assets.

Most farmland sales are *not* subject to the allocation rules of I.R.C. §1060 unless the land is purchased with a group of assets constituting a trade or business. Thus, while the parties to the sale transaction do not need to file Form 8594 to report the purchase price allocation, the buyer must allocate the purchase price to determine income tax basis in the land and each depreciable improvement on the land. *Treas. Reg. §1.167(a)-5.* Likewise, the seller must allocate the purchase price for purposes of gain allocation between the land and any improvements on the land based on

the ratio of the fair market value of each item purchased (land and improvements) to the total combined fair market value of the assets. *Treas. Reg. §1.61-6(a).*

> **Note:** Even if Form 8594 need not be filed, many states require buyers and sellers of real estate to report the transaction and identify the parties to the transaction. If the parties made the same allocations, they are less likely to be challenged.

If the parties to the transaction have adverse interests and the transaction is a bona fide arm's length transaction, a court will generally honor the manner in which the parties allocate the purchase price among the assets purchased in a group. *See, e.g., Blackwell Industries, Inc. v. Comr., T.C. Memo. 1979-61.* Likewise, if those conditions are met, the IRS will also honor the allocation. *See IRS Pub. 225, Farmer's Tax Guide (2022), page 33.* Other than for related party sales, most farmland sales involve parties with adverse interests. The buyer wants to allocate as much of the purchase price to depreciable assets and the buyer wants to allocate as little as possible to those assets to avoid ordinary gain recognition. Conversely, the buyer wants to allocate as little as possible to land because it is in non-depreciable, but the seller does to trigger capital gain rather than ordinary gain recognition.

The Deduction

I.R.C. §180 allows a taxpayer engaged in the trade or business of farming to annually elect (by deducting the expense on the return) the cost of fertilizer, lime, potash, or other materials which enrich, neutralize or condition land used in farming that has been either purchased or acquired during the tax year. For this purpose, the definition of a "farmer" is set forth in Treas. Reg. §1.180-1(b) which cross references Treas. Reg. §1.175-3. Under the definition, a "farmer" is one who cultivates, operates, or manages a farm for gain or profit, either as owner or tenant. For a landlord, if the rent is based on production, the landlord meets the definition of a "farmer" for this purpose. A landlord receiving a fixed amount of rent will not satisfy the definition unless the landlord participates to a material extent in the operation or management of the farm. Id.

> **Note:** The I.R.C. §180 election is effective for one year, and once it is made it may only be revoked with IRS consent. *Treas. Reg. §1.180-2.*

If fertilization costs are not expensed, they are required to be capitalized with expense deductions being amortized over a presumed useful life (similar to field drainage tile and/or fencing). This means that residual soil fertility is a capital asset in the hands of an operating farmer, crop-share landlord or cash rent landlord when farmland is acquired, with the cost amortized over the useful life of the asset. That useful life is typically three to four years. The general 15-year amortization rules don't apply. Instead, the IRS position is that fertilizer costs should be amortized based on the percentage of use or benefit each year. That likely means that straight-line amortization probably does not apply. An agronomist or other soil scientist may be able to provide sufficient information so that the property annual expense allocation can be determined. *See, e.g., IRS Pub. 225, Chapter 4.*

> **Note:** It is the author's experience that usually about 60 percent is deducted in the first year, 30 percent in the second year and the last 10 percent in the third year.

For farmland inherited from a decedent, the date of the decedent's death is the measurement date for determining whether residual soil fertility exists. If it does, the cost can be amortized by the decedent's estate and/or the beneficiaries of the estate that receive the farmland.

IRS guidance. The IRS issued *Tech. Adv. Memo. 9211007 (Dec. 3, 2991)* providing guidance on the deductibility of residual fertilizer supply and emphasizing that the taxpayer claiming the deduction must have beneficial ownership of the fertilizer. Under the facts involved, a corporation was owned by shareholders A and B. The corporation bought buildings, irrigators, pumps, wells, grain bins and "residual fertilizer supply" on land that the shareholders purchased in their individual names. The shareholders leased the land to the corporation via a one-year lease that automatically renewed unless notice of termination was given. The corporation amortized the value allocated to the residual fertilizer supply over seven years. The IRS determined that the corporation could not claim any amortization deduction because it was not the beneficial owner of the fertilizer. *See also Helvering v. F. & R. Lazarus & Co., 308 U.S. 252 (1939).*

> **Note:** The Tech Adv. Memo. does not discuss claiming a deduction for the residual supply under I.R.C. §180 because the residual supply was amortized over seven years.

In addition to beneficial ownership of the residual fertilizer supply, the IRS also specified in the Tech. Adv. Memo. that the taxpayer must 1) establish the presence and the extent of the fertilizer; 2) show the level of soil fertility attributable to the fertilizer applied by the prior owner; 3) provide a basis upon which to measure the increase in fertility in the land; and 4) provide evidence indicating the period over which the fertility attributable to the residual fertilizer will be exhausted.

In 1995, the IRS published a Market Segment Specialization Program (MSSP) addressing residual soil fertility. *IRS MSSP, Guideline on Grain Farmers (Training 3149-133, Jul. 1995).* In the MSSP, the IRS notes that a deduction for residual fertilizer supply will be denied unless the taxpayer can establish (1) beneficial ownership of the residual fertilizer supply; (2) the presence and extent of the residual fertilizer; and (3) that the residual fertilizer supply is actually being exhausted. In addition, the MSSP instructs IRS examining agents to make sure that the values assigned to depreciable farm assets is reasonable.

> **Note:** If a deduction for residual fertilizer supply is taken under I.R.C. §180, the taxpayer need not provide evidence of the period over which the fertility of the fertilizer will be exhausted. This requirement applies to amortization. I.R.C. §180 does not require the taxpayer to establish that the fertilizer (or other soil conditioner) is being exhausted.

There is no guidance on *how* to amortize residual fertility. Should it be claimed on Form 4562? Likely no. That's because capitalization and amortization is what is required. The approach most likely correct is to report it as part of the fertilizer deduction on Schedule F.

> **Note:** I.R.C. §180 is the only election and that is for deducting purchased fertilizer. Residual fertilizer supply is similar to I.R.C. §611 dealing with depletion, for which there is no Form.

Points on the requirements. Some additional points about the requirements set forth in the Tech. Adv. Memo. and the MSSP can be made:

- **Beneficial ownership –** where the fertilizer and the land are purchased by the same taxpayer (e.g., farm tenant buys the farmland), a showing of beneficial ownership of the fertilizer will not be an issue.

- **Presence of extent of fertilizer –** a taxpayer claiming a deduction for residual fertilizer supply should hire an agronomist to conduct soil tests and document the presence and extent of soil nutrients. Documenting the soil sampling procedure is critical, and the sampling should occur before the taxpayer applies any additional fertilizer. If possible, soil samples should be taken at the time of purchase. For farmland that is inherited, the sampling should occur before the buyer applies any new fertilization.

  > **Note:** If farmland has an actual excess soil fertility base it will normally bring a price premium upon sale. That's the same rationale that applies when farmland with good fences, field drainage tile and grain storage facilities is purchased – a price premium applies to factor in the existence of those assets. As for residual fertilizer supply, the excess amount can be measured by grid sampling. A buyer can anticipate that grid sampling will cost of approximately $15-$30 per acre. Agronomists and agricultural soil testing labs follow certain guidelines and procedures to determine average (base) soil fertility for various soil types. Once grid soil samples are obtained, the fertility levels of those samples are compared to the base fertility guideline levels for particular soil types to establish the amount of "excess" fertility on a tract of acquired farm real estate.

- **Level of fertility attributable to prior owner –** having the soil tested at the time of purchase will distinguish the fertilizer level in the soil at the time of purchase.

- **Basis to measure increase in fertility –** difficult to establish because of the variability of soil fertility in general. The key is to obtain data for the established base soil fertility for the type of soil on the purchased farmland from comparable tracts and comparable soil types. By establishing the base soil fertility, the actual sampling on the purchased property will reveal whether excess residual fertilizer is present. But a taxpayer should be prepared for IRS to counter with its own soil analysis showing a different base fertility level.

  > **Note:** There simply is little IRS guidance on what an acceptable baseline is for measuring residual fertilizer supply or excess available nutrients.

- **Period of exhaustion –** this depends on the types of nutrients, soil, crop rotations, etc. A professional agronomic report will be needed to establish the exhaustion period.

Amount of deduction. The actual deduction might be less than the agronomist's value of the excess amount. If the land's value combined with the value of the excess fertility exceed the purchase price of the land, an allocation must be done for each one based on their respective fair market values.

> **Example:** Bill buys farmland for $8,000/acre. An agronomist pegs the excess fertility at $4,000/acre. Comparable land in the area without excess fertility sells for $7,000/acre. When the $4,000/acre for excess fertility is added to the land value without excess fertility, the total is $11,000. Thus, the land is 63.6 percent of the total value, and the excess fertility is 36.4 percent. The purchase price was $8,000/acre. 36.4 percent of that amount is $2,912/acre. That will be the amount

that IRS will accept as the deduction for excess fertilizer supply – not the $4,000/acre that the agronomist determined.

Documentation

While the IRS does not require it, perhaps the best way to document the deduction for excess soil fertility is to provide for the allocation of value to the amount of above average soil fertility in the purchase contract for the farmland. In addition, a written summary of how the computation was made and the time period over which it would deplete due to crop production should be obtained from the agronomist or other expert involved. This will be beneficial for establishing the proper amortization period for the excess soil fertility and will provide substantiation of the deduction upon any subsequent IRS (or state) audit.

> **Note:** Depending on the soil type involved, the deduction could range from $50 per acre to over $700 per acre – perhaps exceeding 10 percent of the land's value.

Recapture

If a deduction for excess fertilizer supply is claimed and the land is later sold, the amount of the selling price attributable to the excess fertility will be recaptured as ordinary income. It does not qualify for capital gain treatment. Any remaining gain will be taxed at capital gain rates. Of course, if the taxpayer continues to own the land until death recapture is avoided.

Application to Pasture/Rangeland?

In general. Will the I.R.C. §180 deduction provide a substantial tax deduction for residual fertilizer supply on pasture and/or rangeland? The starting point on this particular question is to note that the IRS has not specifically addressed the application of I.R.C. §180 to pasture or rangeland. Indeed, the only IRS guidance on the excess soil fertility issue is the 1991 TAM and the MSSP referred to above. But, I.R.C. §180 does indicate that "land used in farming" for purposes of the provision includes "land used…for the sustenance of livestock." So, in theory, the same concepts that apply to cropland apply to land used for grazing. However, the makeup and value of the minerals differs. With pasture and rangeland the value of potassium and phosphorous contained in the soil is much less than the value of the same minerals in soil used to raise row crops. The value per unit is simply not the same such that the owner of the grazing land would simply not apply fertilizer (especially at the current high prices) to enhance the land's value – the economics disincentivize such activity.

Native pasture. The nutrient balance on a native pasture is very tight and there is no "excess" nutrient in a native pasture system. These systems are rarely if ever fertilized with commercial fertilizer or external manure applications, with the exception being (perhaps) for a native field that is hayed. Nitrogen can increase production and allow increased stocking rates, but is simply not profitable to do so. Native hay meadows are sometimes fertilized with 30-40# nitrogen and 10# phosphorous. Fertilizing native grass usually increases any cool-season grasses in the stand (e.g., Kentucky bluegrass and annual bromes) and increases broadleafs. Prescribed burning in the late spring is then recommended to set those unwanted species back the next year.

Native rangeland is very efficient as using N and gets nitrogen from lightning/rainfall and non-symbiotic fixation (e.g Clostridium and Azotobacter). There may be some symbiotic N fixation by native legumes. The year after a drought, biomass on rangeland may increase because of unused

N in the soil, if rainfall is normal or above. This increase in production not only relies on moisture, but on how the pasture was managed during the year of drought.

Application. While I.R.C. §180 applies to grazing land, pasture grass is not the same as cropland when it comes to nutrients. While the concept applies equally, the application does not. Given that rangeland has a lower per acre fair market value than does cropland and the excess soil fertility (even if it is present and can be measured) would be less than what is present on cropland, any associated I.R.C. §180 deduction would likely be insufficient to justify the work to claim the deduction – and it is a deduction and not as valuable to the taxpayer as a credit.

> **Caution:** In some states, following the IRS guidance on deducting excess soil fertility may not be good enough.

Cost Segregation – An Alternative

As an alternative to the approach laid out above for obtaining a deduction for residual fertilizer supply, an alternative approach is a cost segregation approach to identify the "available nutrients" in the soil. With a cost segregation approach, the buyer allocates part of the land's purchase price to the land's components on the basis of fair market value. *See Hospital Corporation of America v. Comr., 109 T.C. 21 (1997); A.O.D. 1999-008 (Aug. 30, 1999).*

Authority exists for allocation part of the purchase price of land to assets acquired with the land:

- **Timber.** Treas. Reg. §1.611-3(f) allows taxpayers to use scientific methodology to allocate part of the purchase price of land to standing timber acquired with the land. Procedurally, a forester would estimate the value of the trees on the land at the time of purchase by conducting a timber "cruise." See, e.g., https://extension.oregonstate.edu/forests/health-managment/planning-timber-cruise-using-it The purchase price would then be allocated to the basis of the land and the basis of the timber using the fair market values for each asset respectively.

- **Water rights.** The sale of land with vested water rights allows for the allocation of the purchase price between the taxpayer's basis in the land and the water rights. *Treas. Reg. §1.61-6(a). See also Gladden v. Comr., 262 F.3d 851 (9th Cir. 2001).* The allocation is allowed on the theory that a premium was paid for the land to acquire the water rights. In Gladden the court remanded the case to the Tax Court for a determination of the premium that was paid. The court also held that if, on remand, the Tax Court found it "impracticable or impossible" to determine the premium, the taxpayers could use the full cost basis in the land to reduce their gain on the sale of the water rights. *Id., citing Inaja Land Co. Ltd. v. Comr., 9 T.C. 727 (1947).*

  > **Note:** The basis of water rights for land overlying the Ogallala formation is the difference in value of land with a supply of ground water and land without a supply of ground water. *Rev. Proc. 66-11. 1966-1 C.B. 624.*

- **Sod.** Sod is a natural deposit that is depletable under I.R.C. §611. *See, e.g., Meyers v. Comr., 66 T.C. 235 (1976).* Likewise, soil and loam are natural deposits. *Rev. Rul. 79-*

411, 1979-2 CB 246. Thus, taxpayers can claim a cost depletion allowance attributable to the sale of topsoil to as a partial offset to gain realized on the transaction.

When a farm is purchased, the cost segregation approach allows the purchase price to be allocated among the land, buildings, fences, tile lines, timber, mineral rights and other assets purchased with the land. Then the amount allocated to the land is further allocated to the soil and the nutrients in the soil, the cost of which could then be amortized over the anticipated period of exhaustion. Support for this position is *Hospital Corporation of America v. Comr., 109 T.C. 21 (1997).* In the case, the court held that taxpayers can allocate part of the cost of a building to components of the building, and depreciate the components over their respective (shorter) recovery periods.

Example:

Kelly Ghoulish paid $1,225,000 ($1,200,000 purchase price and $25,000 transaction costs) for 140 acres of farmland. The land was pattern tiled, contained an old machine shed and a soil test revealed that the land had high levels of soil nutrients due to the seller spreading excess hog manure. Kelly and the seller did not enter into an agreement concerning the allocation of the purchase/selling price to the nutrients or improvements, and neither of them filed Form 8594. Shortly after the purchase, Kelly met with her tax preparer, Gina Muck, who told Kelly that she could allocate part of the purchase price to the tile and soil nutrients if she could establish their value. Based on that advice, Kelly was able took the map of the tile line (obtained from the county NRCS office) that showed the tiling was 5 years old and took it to a tiling contractor (who was on an NRCS-approved list) who provided a written estimate that the tiling had another 50 years of usefulness and would cost (presently) $40,000 to replace. Based on that information, Kelly estimated that the value of the tile was $36,364 ($40,000/55 years) x 50 years). Kelly did not allocate any value to the machine shed because it was in poor shape and either needed substantial repairs to be useful or be demolished.

Kelly paid $4,000 to an agronomist to analyze the soil. The agronomist took the results of soil samples and compared them with what the state Land Grant University recommended as optimal for the various soil types of the land that Kelly purchased. The agronomist valued the available nutrients in excess of the suggested optimal amount by multiplying that excess by what it would cost Kelly to buy and apply that amount of excess. The agronomist then determined the period of time it would take Kelly to use up the excess amount based on the crops Kelly would plant in a normal crop rotation for the area if Kelly didn't add any additional nutrients to the soil. Kelly then took the agronomist's report and estimated the fair market value of the various soil nutrients on a per acre basis. Kelly hired an appraiser to provide her with an estimate of the fair market value of comparable farmland without pattern tiling and without excess nutrients. The appraisal came in at $1,100,000.

Kelly gave all of this information to Gina. Gina allocated the $1,225,000 purchase price to the land, pattern tile and soil nutrients based on the fair market value of each asset and amortized the allocated purchase price to each particular soil nutrient identified by the agronomist based on the exhaustion period the agronomist specified.