

Accounting and Tax Treatment of the Agricultural Sector According to the Financial Accounting System and Algerian Tax Legislation (Supported by Illustrative Examples)

المعالجة المحاسبية والجبائية للقطاع الفلاحي حسب النظام المحاسبي المالي والتشريع الجبائي الجزائري
(مدعم بأمثلة توضيحية)

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Abstract:

This research paper aims to highlight the accounting treatment of the agricultural sector according to the Financial Accounting System, by clarifying the necessary accounting entries when dealing with plant and animal biological assets. Additionally, this paper addresses the tax treatment of the agricultural sector according to Algerian tax legislation, explaining how to determine the taxable base subject to agricultural income tax, how to calculate and pay it, illustrated with examples.

The study concluded that the accounting treatment of plant and animal biological assets is not significantly different from the accounting treatment in other production companies that acquire fixed assets and raw materials and then convert them into finished products for sale. Furthermore, it found that the tax legislator has treated the agricultural sector preferentially compared to other sectors by subjecting it to a single income tax while exempting it from the professional activity tax and value-added tax, along with granting a set of tax incentives.

Keywords: Agricultural sector, Accounting treatment, Tax treatment, Agricultural income tax, Plant and animal biological assets.

JEL Classification Codes: H2, H83.

ملخص:

تهدف هذه الورقة البحثية إلى إبراز المعالجة المحاسبية للقطاع الفلاحي وفق النظام المحاسبي المالي، وذلك من خلال توضيح القيود المحاسبية الواجب إجراؤها عند التعامل مع الأصول البيولوجية النباتية والحيوانية، كما تطرقت هذه المداخلة إلى المعالجة الجبائية للقطاع الفلاحي حسب التشريع الجبائي الجزائري من خلال توضيح كيفية تحديد الوعاء الضريبي الخاضع للضريبة على الدخل الفلاحي وكيفية حسابها ودفعها مع توضيح ذلك بأمثلة توضيحية. وقد خلصت الدراسة إلى أن المعالجة المحاسبية للأصول البيولوجية النباتية والحيوانية لا تختلف كثيرا عن المعالجة المحاسبية في المؤسسات الإنتاجية الأخرى التي تقوم بإقتناء أصول ثابتة وكذا مواد أولية ثم تحويلها إلى إنتاج تام موجه للبيع، كما خلصت إلى أن المشرع الجبائي عالج القطاع الفلاحي معالجة جبائية تفضيلية مقارنة مع باقي القطاعات من خلال إخضاعه لضريبة واحدة على الدخل مع إعفائه من الرسم على النشاط المهني والرسم على القيمة المضافة إضافة إلى تقرير جملة من الامتيازات الجبائية.

كلمات مفتاحية: القطاع الفلاحي، المعالجة المحاسبية، المعالجة الجبائية، الضريبة على المداخيل الفلاحية، الأصول البيولوجية النباتية والحيوانية.

تصنيفات JEL : H2، H83.

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Introduction:

The agricultural sector is considered one of the vital sectors that play a leading role in the economy by meeting the food needs of the population, bridging the wide food gap, providing raw materials for local industries, and creating direct and indirect employment opportunities, in addition to driving the development of other sectors.

The agricultural sector is characterized by specific features that distinguish it from other sectors, resulting in several accounting challenges in terms of recognition, measurement, and disclosure. This is due to the nature of this activity, which is influenced by many natural factors and climatic conditions. Additionally, it involves biological assets whose values not only change but also their quantities change (growth, death, reproduction, etc.). Moreover, the fiscal year varies depending on the nature of the agricultural product subject to seasons. The agricultural period is linked to the agricultural production cycle, which may be seasonal or periodic, reflecting on the volume of accounting work in each season. Furthermore, there is the possibility of converting some finished products into biological assets, not to mention the change in the classification of agricultural assets into fixed assets or current assets depending on the purpose of acquisition.

On the other hand, the tax legislator has granted this sector preferential tax treatment compared to other sectors by subjecting it to a single income tax.

Based on the aforementioned, the main question of this study emerges, which we will address in our intervention in the following question: **What are the accounting and tax treatments of the agricultural sector according to the Financial Accounting System and Algerian tax legislation?**

Research Objectives:

In this intervention, we aim to achieve the following objectives:

- Shedding light on the various forms of agricultural activities.
- Explaining the accounting treatment of plant and animal biological assets.
- Clarifying the tax treatment of the agricultural sector in Algeria.

Significance of the Study:

The importance of this research paper lies in informing researchers and stakeholders in this field about the mechanisms of accounting and tax treatment of agricultural sector revenues according to Algerian tax legislation.

To address the posed issue, we divided this study into three axes as follows:

The first axis: The nature of the agricultural sector.

The second axis: The accounting treatment of the agricultural sector.

The third axis: The tax treatment of the agricultural sector.

1-Axis one: Nature of the Agricultural Sector

Agricultural activity primarily revolves around harnessing nature to meet the food needs of the population, whether through plant-based activities for producing crops or animal husbandry activities for producing milk, wool, meat, and other products.

1-1- Definition of the Agricultural Sector:

Farming has been defined as all productive activities undertaken by farmers to enhance agricultural and plant production processes to ensure a decent standard of living for humans (Bouaroua, R. 2017. p.3).

Additionally, the Food and Agriculture Organization (FAO) defines it as "land cultivation and preparation to achieve activities related to crop cultivation and animal husbandry, as it sees it as the way in which humans exploit nature to meet their basic needs" (Hamad, M. K. 2013. p.346). Furthermore, it is defined as the process of producing food, fodder, fibers, and other goods through systematic plant and animal cultivation (Wikipedia. 2019).

Therefore, agriculture can be understood as an economic activity practiced by humans that involves harnessing the land, whether in the context of plant-based activities for producing agricultural crops or in the context of animal husbandry activities for producing milk, wool, meat, and other products.

1-2- Importance of the Agricultural Sector:

The agricultural sector, both in plant and animal production, and its derivatives, play a major role in the economies of many countries. Its importance stems from its contribution in:

Providing essential food products to satisfy the basic needs of society, including plant products like grains, vegetables, and fruits, as well as animal products like various types of meat and dairy (Al-Shurafat, A. J. 2012. p.28), thereby increasing agricultural production investment to meet the food needs of the population, ultimately aiming for self-sufficiency in local production and achieving food security (Al-Muqbeli, M.A. 2012. p.166).

Driving the development of other sectors, especially the industrial sector, by providing raw materials used as inputs for production in the industrial sector to drive economic growth and increase production capacity. Consequently, agriculture is considered one of the activities that contribute significantly to the gross domestic product (GDP) in most countries worldwide, affecting the overall GDP growth (Al-Muqbeli, M.A. 2012. p.85).

Significantly impacting the lives of most populations in many developing countries, as a large majority of their populations are engaged in agriculture and depend on it for their livelihoods. These societies are often described as agricultural communities, not only because most of their workforce is engaged in agriculture but also because agriculture is a way of life for most people in many of these countries (Al-Muqbeli, M.A. 2012. p.88). Hence, it greatly contributes to absorbing unemployment and providing employment opportunities for various social groups, especially in rural areas.

Stabilizing rural populations in their areas and thus reducing their migration to major cities, as they rely on agriculture for their livelihoods and for the employment opportunities it provides.

1-3- Forms of Agricultural Activities:

Investments in the agricultural sector vary widely, encompassing various types such as plant-based activities, animal husbandry, and marine fishing, as follows:

1-3-1- Plant-based Activities:

Plant-based activities involve establishing agricultural projects through the cultivation and preparation of agricultural lands to obtain agricultural products for marketing and sale (Jameel, S. Z.M. 2006. p.226). These activities include all land exploitation operations aimed at generating revenue from crops, whether field crops such as grains and vegetables or orchard products such as various fruits (Al-Muqbeli, M.A. 2012. p.308).

It is worth noting that field crops cannot be considered fixed assets for the farm because their life cycle or stay in the field does not exceed one year. Therefore, these crops are considered current assets for the farm. On the other hand, orchard products differ from the first type of crops as they remain in the farm for more than one fiscal year before bearing fruit, requiring significant fixed capital. This type of trees is considered fixed assets for the farm, as they take a long time to become productive (Jameel, S. Z.M. 2006. pp.226-227).

1-3-2- Animal Husbandry:

This involves investing in animal wealth by raising animals of all kinds, especially sheep, cattle, goats, camels, horses, as well as breeding bees, poultry, rabbits, and the resultant animal production from selling milk, hides, wool, and others (Al-Muqbeli, M.A. 2012. p.331). This activity also includes marine fishing practices with various aquatic organisms and resources, whether through fishing for fish and marine life in salty water bodies such as oceans and seas or in freshwater bodies such as rivers and dams, in addition to breeding aquatic organisms in ponds and artificial lakes for reproduction purposes (Fishing. 2023). It is noteworthy that this activity deals with living organisms different from field crops and other agricultural products.

The classification of biological animal assets as current or non-current for an entity depends on the primary purpose of their acquisition. If the acquired asset is intended to generate revenue in the near future (less than one fiscal year) through its sale, it is considered inventory and is recorded in the third category. However, if the asset is expected to generate revenue in the long term (more than one fiscal year), it is considered a fixed asset and is recorded in the second category (University of Batna. 2015-2016. p.p. 87-88).

2-Axis two: Agricultural Sector Accounting Treatment

The specificity of the agricultural sector, with its plant and animal subsectors, requires accountants to address and process it in accordance with generally accepted accounting principles, while respecting the principles of the financial accounting system, as follows:

2-1- Accounting Treatment for Plant Biological Assets:

The accounting treatment for fruit trees differs from that of other agricultural activities. Fruit trees are considered fixed assets with a fruiting period ranging from three to five years, depending on soil fertility and care methods. Farmers incur capital expenditures, such as the cost of saplings and other establishment costs. The accounting treatment for these assets is as follows, depending on the stages they go through:

2-1-1- Accounting Treatment During the Establishment Period:

The establishment phase begins with soil cultivation, planting saplings, and lasts for several years depending on the type of saplings. The agricultural entity purchases saplings for planting, incurring significant expenses during this period. Agricultural activities are generally not subject to value-added tax (VAT) initially, as VAT is considered an additional burden added to

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the cost of acquiring the asset. However, if the farmer chooses to voluntarily subject the activity to VAT, VAT can be reclaimed. This process is recorded as follows:

6011	401	Purchase of Consumable Saplings Suppliers (Receipt of Sapling Invoice)	XXX	XXX
401	512	Suppliers Bank (Payment of Sapling Purchase Invoice)	XXX	XXX

During the planting phase, the agricultural entity incurs various expenses, such as land rent, land preparation, sapling planting and care costs, fertilizer costs, pruning expenses, depreciation of machinery and tools used, irrigation and plowing costs, labor wages, etc. These expenses are recorded during the accounting period according to their nature in expense accounts as follows (University of Batna. 2015-2016. p.p. 84-85):

601	31	Raw Materials Consumed Raw Materials Inventory (Consumption of Raw Materials - Fertilizers and Pesticides)	XXX	XXX
6..	512	Expenses Bank (Payment of Various Expenses for Saplings)	XXX	XXX

At the end of each financial year, these saplings are considered assets under construction. All expenses incurred by the entity for nurturing these saplings until they become productive are added to their purchase value in account 2340 Saplings under Construction, in accordance with the matching principle of revenues and expenses and the independence of financial periods, as follows:

2340	7324	Saplings under Construction Production Fixed Assets (Productive Saplings) (Transfer of Expenses for Assets under Construction)	XXX	XXX
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When the saplings become mature and productive trees, they are transferred to productive assets, as indicated by the following entry:

240	2340	Productive Trees Saplings under Construction (Maturity of Saplings to the Production Phase)	XXX	XXX
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2-1-2- Accounting Treatment During the Production Period:

This is the productive period in the life of fruit-bearing trees. It begins when the trees start producing economically viable yields for sale and ends when the tree yields decrease to a point

where the returns do not cover the expenses. The duration of this period depends on the level of care and maintenance.

It should be noted that expenses related to the production period are revenue expenses because they maintain the planting (saplings) and do not increase its productive capacity. Unlike expenses in the previous period, which are considered capital expenditures and are integrated into the cost of establishing the planting. Some of the main expenses incurred during the production period include labor costs, irrigation, harvesting costs, fertilization costs, etc. When the fruits are harvested and brought into the store, they are valued at the cost of production (Jameel, S. Z.M. 2006. pp.230-231).and recorded as follows:

3551	724	Finished Products of Plant Origin Inventory Change of Products (Entry of Fruits into the Store)	XXX	XXX
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When the agricultural entity sells the fruits, they are removed from the inventory at the cost of production and recognized at the sales price, as follows, considering that the agricultural entity has chosen to subject itself to VAT:

724	3551	Inventory Change of Products Finished Products of Plant Origin (Removal of Fruits from the Store for Sale)	XXX	XXX
411	701	Customers Sales of Finished Products (Sales Invoice for Products)	XXX	XXX
512	411	Bank Customers (Collection of Sales Value)	XXX	XXX

2-1-3- Accounting Treatment in the Mature Period of Fruit Trees:

The production stage ends when the productivity of fruit trees has declined and become uneconomical, marking the beginning of the final stage known as the declining yield phase. This raises the question of when depreciation expense should be recognized: from the period of planting or from the period of declining yield. In this regard, there are two approaches:

- The first approach advocates for limiting the recognition of depreciation to the stage of deterioration and decline, as it is the period when the orchard's productivity decreases. Accordingly, depreciation expense is recognized only in the last few years of the trees' life, which are the years of declining yield.

- The second approach advocates for recognizing depreciation starting from the planting and production period without limiting it to the period of declining yield.

The second opinion is usually favored, which involves depreciating the asset from the period of cultivation through the period of yield decline. This is because the cultivation period typically generates significant revenues compared to the later period when tree productivity diminishes, aligning with the principle of matching revenues with expenses. Additionally, the periods of prosperity and decline overlap, and the depreciation period might be short, making it impractical to fully depreciate the asset or leading to a high depreciation rate. Therefore, it's

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preferable to distribute the depreciation burden over the productive life span of the trees (Jameel, S. Z.M. 2006. p.213).

The depreciation installment is documented as follows:

681	2840	Depreciation Allowances Depreciation of Fruit Trees (Proving Depreciation Expense)	XXX	XXX
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2-1-4- Illustrative Example of Accounting Treatment for Biological Plant Assets:

Let's assume a farming investor performed the following transactions: (not subject to value-added tax)

- Purchased apple saplings for planting, valued at 1,000,000 DZD including all fees, paying the invoice by bank draft the next day.
- Consumed fertilizers and pesticides for these saplings, totaling 60,000 DZD.
- Paid inspection fees for the saplings by an agricultural engineer, amounting to 40,000 DZD.
- At the end of the farming season, harvested apples valued at 4,000,000 DZD and deposited them in storage.
- Sold the apple inventory worth 3,000,000 DZD for 3,600,000 DZD by bank draft.

Required: Making the necessary journal entries.

6011	401	Purchases of Consumable Saplings Suppliers of Goods and Services (Receipt of Sapling Invoice)	1,000,000	1,000,000
401	512	Suppliers of Goods and Services Bank (Payment for Sapling Purchase)	1,000,000	1,000,000

601	31	Consumed Raw Materials Raw Material Inventory (Consumption of Fertilizers and Pesticides)	60,000	60,000
622	512	Agricultural Engineer Fees Bank (Payment of Agricultural Engineer's Fees)	40,000	40,000
2340	7324	Saplings Under Development Fixed Asset Production (Productive Trees) (Transfer of Expenses to Developing Assets)	1,100,000	1,100,000
240	2340	Fruit-bearing Trees Saplings Under Development (Maturity of Saplings to Production Stage)	1,100,000	1,100,000
3551	724	Complete Products from Plant Source Change in Inventory of Products (Entering Apple Fruits into Storage)	400,000	400,000
724		Change in Inventory of Products	300,000	

	3551	Complete Products from Plant Source (Removal of Fruits from Storage for Sale)		300,000
411	701	Customers Sales of Complete Products (Invoice for Sale of Products)	3,600,000	3,600,000
512	411	Bank Customers (Receipt of Sales Value)	3,600,000	3,600,000

2-2- Accounting Treatment for Biological Assets:

Biological assets are a significant source for producing milk, meat, wool, eggs, honey, and others. Whether a biological asset is classified as inventory or fixed assets for an entity depends on its primary purpose of acquisition. If the acquired asset is owned by the entity and is expected to generate revenue in the near future (less than one fiscal year) through its sale, it is classified as inventory and recorded in the third category (Inventories). However, if the asset is owned by the entity and is expected to generate revenue in the long term (more than one fiscal year) through its use (milk, wool, honey, meat, etc.), it is classified as a fixed asset and recorded in the second category (Property, Plant, and Equipment). The accounting treatment is as follows:

2-2-1- Recording the Entry of Biological Assets to the Entity:

The accounting entry for the acquisition of biological assets by the entity, where they are mature and ready for production, whether acquired from suppliers or produced by the entity, is as follows:

250		Biological Animal Assets	XXX	
	404	Suppliers of Fixed Assets		XXX
	7235	Fixed Asset Production (Producing Productive Animals) (Acquisition/Production of Biological Animal Assets)		

The institution may acquire animals for investment purposes, but these animals have not yet reached maturity or become ready for production. They are recorded under Account/ 2350 Biological Animal Assets under Development, where they are cared for until they reach maturity and become ready for production. During this period, various costs are incurred, such as feed costs, barn rent, animal care expenses, employee wages, veterinarian fees, and others. These expenses are recorded during the accounting cycle according to their nature in expense accounts. At the end of the fiscal year, all expenses incurred on the animals are consolidated into Account 2350 Animals under Development, following the principle of matching revenues with expenses and the independence of financial cycles. When the animals reach maturity and become capable of production, they are transferred to Account 250 Biological Animal Assets . This is accounted for as follows:

2350	512	Biological animal assets under development Bank (Acquisition of immature biological animal assets for investment purposes)	XXX	XXX
6015	314	Feeds and veterinary supplies consumed Inventory of feeds and veterinary supplies	XXX	XXX

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		(Consumption of materials for the benefit of animals)		
6..	512	Expenses Bank (Payment of various expenses for the benefit of animals)	XXX	XXX
2350	724	Biological animal assets under development Change in inventory of products (Recognition of biological animal assets under development)	XXX	XXX
250	2350	Biological animal assets Biological animal assets under development (Arrival of animals at the production stage)	XXX	XXX

2-2-2- Recording the Utilization of Biological Animal Assets:

When animals reach maturity and become capable of reproduction, the offspring resulting from the breeding process (calves, lambs, etc.) are considered fixed assets if the enterprise intends to retain and breed them until they become productive. This has been previously discussed. However, if the enterprise intends to sell or slaughter them for the purpose of utilizing their meat, they are considered inventory and are accounted for as follows:

320	724	Calves, lambs, etc. Change in Inventory of Products (Increase in animals due to birth)	XXX	XXX
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When production of milk, wool, meat, or other items is achieved, they are entered into inventory at the cost of production, and are accounted for as follows:

3552	724	Finished products from animal origin Change in Inventory of Products (Entering products from animal origin into inventory)	XXX	XXX
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When the organization sells animal products, they are removed from inventory at the cost of production and are accounted for at the selling price as follows (University of Batna. 2015-2016. p.p. 90-91):

724	3552	Inventory Change of Animal Products Complete Animal-Origin Products (Withdrawal of animal products from inventory for sale)	XXX	XXX
411	701	Customers Sales of Complete Products (Sales invoice)	XXX	XXX
512	512	Bank Customers (Collection of sales value)	XXX	XXX

Depreciation provisions are established at the end of the year by distributing the depreciation burden over the productive life of the animals as follows:

681	2850	Depreciation provisions Depreciation of domestic animals (Recording depreciation burden)	XXX	XXX
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2-2-3- Recording the disposal of biological animal assets.

When the organization relinquishes animals used as investments, the process is treated similarly to disposing of other fixed assets. This may result in a surplus or deficit in value, which is accounted for as follows:

462 2850		Credit accounts for disposal transactions of fixed assets Depreciation of biological animal assets	XXX XXX	
	250	Animal biological assets		XXX
	752	Surplus value from the disposal of non-monetary fixed assets (Recording the disposal of animal assets with a surplus value)		XXX
462 2850 652		Credit accounts for disposal transactions of fixed assets Depreciation of biological animal assets Deficiencies in value on disposal of non-monetary fixed assets	XXX XXX XXX	
	250	Animal biological assets (Recording the disposal of animal assets with a deficit value)		XXX

In the event of the death of any biological animal asset on the farm, the organization bears the value of the deceased animal by recording it in the expense accounts. The net accounting value is considered a deficit value and is recorded as follows (University of Batna. 20152016. p.p. 90-91):

652 2850		Deficiencies in value on disposal of non-monetary fixed assets Depreciation of biological animal assets	XXX XXX	
	250	Animal biological assets (Recording the death of an animal asset)		XXX

2-2-4- Illustrative Example of the Accounting Treatment for Biological Assets - Livestock

Suppose an agricultural enterprise specializing in milk production carried out the following transactions (not subject to VAT):

- Purchase of dairy cows for 1,000,000 DZD, including all taxes.
- Depreciation observed for one of the cows valued at 150,000 DZD a few days after receipt.
- At the end of the period, the cows gave birth to calves intended for sale, valued at 120,000 DZD.
- The value of milk produced amounted to 300,000 DZD.
- The produced milk was sold for 400,000 DZD.

Required: Record the necessary journal entries.

250	404	Biological Assets - Livestock Suppliers of Fixed Assets (Acquisition of biological assets - livestock)	1,000,000	1,000,000
652		Loss on Disposal of Non-Financial Fixed Assets	15,000	

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	250	Biological Assets - Livestock (Recording the death of a biological asset)		150,000
320	724	Newborn Animals (Calves) Change in Inventory of Products (Increase in animals due to birth)	120,000	120,000
3552	724	Finished Goods from Animal Origin Change in Inventory of Products (Entry of products from animal origin into inventory)	300,000	300,000
724	3552	Change in Inventory of Products Finished Goods from Animal Origin (Removal of animal products from inventory for sale)	300,000	300,000
411	701	Customers Sales of Finished Products (Invoice for the sale of products)	400,000	400,000
512	411	Bank Customers (Collection of sales proceeds)	400,000	400,000

3-Axis three: Tax Treatment of the Agricultural Sector

It is worth mentioning that revenues generated from agricultural activities are subject to a single tax, which is the tax on total income under the category of agricultural revenues. However, they remain exempt from professional activity tax and value-added tax, unless the agricultural investor chooses voluntarily to be subject to value-added tax. It is also noteworthy that the Algerian tax legislator has provided several incentives for the agricultural sector, either within the framework of the general system according to various tax laws or within the framework of incentive systems through investment support bodies.

3-1- Determination of Taxable Income:

Taxable agricultural income is determined based on the nature of the crops, the cultivated areas, and the average yield per hectare, by adopting specific definitions determined by a provincial committee on the hectare yield and the expenses incurred per hectare according to the specificity of each region. Therefore, agricultural income for agricultural activity is calculated using the following formul (General Tax Directorate. 2023):

Agricultural Income (Agricultural Activity) = (Average Yield per Hectare - Hectare Costs) x Cultivated Area
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As for animal husbandry activity, taxable income is determined based on the number of heads per species of animals, taking into account their average commercial value after applying a specific reduction of 60%. Thus, the agricultural income for animal husbandry activity is calculated using the following formula (General Tax Directorate. 2023):

Agricultural Income (Animal Husbandry Activity) = (Average Commercial Value - Reduction Value) x Number of Heads

For poultry farming, beekeeping, rabbits, snails, and mushroom products, taxable income is determined by applying an average rate according to the situation on the number of units or

quantities achieved. Therefore, the agricultural income for these activities is calculated using the following formula (General Tax Directorate. 2023):

Agricultural Income (Poultry Farming, Beekeeping, and Rabbits) = (Average Rate Value x Number of Units)
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It should be noted that these definitions are determined annually by a local committee established at the level of each province, which meets before the end of February each year upon a call from its chairman to determine agricultural incomes for the previous year. In case the committee does not convene, the latest approved definitions are used for only two consecutive years. The committee is composed of members relevant to the agricultural sector (the provincial tax director, director of agricultural services, director of water resources, representative from the Algerian Chamber of Agriculture, representative from the National Office of Agricultural Lands, representative from the National Federation of Breeders, etc.). The defined definitions are approved by the provincial committee by a decision issued by the regional tax director within thirty days from the end of the committee's work (General Tax Directorate. 2023).

3-2- Calculation and Payment of Agricultural Income Tax:

To calculate the agricultural income tax, every agricultural investor or livestock breeder must submit a declaration of their agricultural income (form G15) to the tax inspectorate responsible for the location of their agricultural investment by no later than March 1st of each year. The declaration includes the following information (General Tax Directorate. 2023):

- The cultivated area according to the type of crops: potatoes, tomatoes, carrots, onions, sunflowers, etc.
- The number of productive trees planted per type: citrus fruits, olive trees, fig trees, etc.
- The number of livestock heads by species: cows, sheep, goats, poultry, rabbits, number of beehives, etc.
- The quantities achieved from mushroom exploitation activity, etc.

Based on this declaration, the agricultural income tax is calculated by applying the annual progressive tax table on the following total income:

Table (1): Table Representing the Annual Progressive Tax Scale for Total Income Tax:

Income Brackets	Tax Rate	Tax Amount	Accumulated Amount
Less than 240,000 DZD	0%	0	0
From 240,000 to 480,000 DZD	23%	55,200	55,200
From 480,000 to 960,000 DZD	27%	129,600	184,800
From 960,000 to 1,920,000 DZD	30%	288,000	472,800
From 1,920,000 to 3,840,000 DZD	33%	633,600	1,106,400
More than 3,840,000 DZD	35%	/	/

Source: General Tax Directorate. (2023). Article 104. <https://www.mfdgi.gov.dz/>

The tax on agricultural income is paid within the tax year through a single advance payment notice (installment payment) from September 20th to October 20th at the tax office to which the agricultural investor belongs. The final settlement balance is paid within its legal deadlines through a tax schedule sent by the tax authority. It's worth noting that the minimum tax on agricultural income is set at 10,000 DZD, similar to the tax on industrial and commercial profits as well as the tax on non-commercial professional profits (General Tax Directorate. 2023).

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3-3- An illustrative example of calculating the tax on agricultural income.

Here is an illustrative example of how to calculate the tax on agricultural income according to Algerian tax legislation, whether in the context of plant activity or animal husbandry. Let's assume that a farmer declared his agricultural activity for the year 2022 as follows in 2023:

Crop Type	Planted Area	Animal Species	Number of Heads
Potatoes	20 hectares	Cattle	20 heads
Tomatoes	10 hectares	Sheep	60 heads
Watermelon	5 hectares	Goats	30 heads

Let's assume that the definitions set by the provincial committee during the agricultural season for the year 2022 were as follows:

Crop Type	The average yield per hectare	The expenses per hectare	Animal Species	The average commercial value
Potatoes	200,000 DZD	170,000 DZD	Cattle	100,000 DZD
Tomatoes	180,000 DZD	160,000 DZD	Sheep	25,000 DZD
Watermelon	150,000 DZD	125,000 DZD	Goats	10,000 DZD

The required tasks are:

- a-** Calculate the agricultural income resulting from agricultural activities and animal husbandry.
- b-** Calculate the tax on agricultural income, given that the administratively approved reduction rate for cattle heads is 60%.

The Model Solution:

a- Calculation of Agricultural Income from Crop Farming and Animal Husbandry:

Crop Type	Average Yield per Hectare (DZD)	Costs per Hectare (DZD)	Difference Between Yield and Costs (DZD)	Cultivated Area	Tax Base (DZD)
Potatoes	200,000	170,000	30,000	20 hectares	600,000
Tomatoes	180,000	160,000	20,000	10 hectares	200,000
Watermelon	150,000	125,000	25,000	05 hectares	125,000
Total Agricultural Income from Crop Farming					925,000
Animal Type	Average Commercial Value (DZD)	Administrative Reduction Value (60%) (DZD)	Net Value (DZD)	Number of Heads	Tax Base (DZD)
Cattle	100,000	60,000	40,000	20 heads	800,000
Sheep	25,000	15,000	10,000	60 heads	600,000
Goats	10,000	6,000	4,000	30 heads	120,000
Total Agricultural Income from Animal Husbandry					1,520,000

Total Agricultural Income (Crop Farming + Animal Husbandry)	925,000 + 1,520,000 = 2,445,000	2,445,000
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b- Calculation of Agricultural Income Tax:

By applying the progressive tax table to the agricultural income, we obtain the payable tax as follows:

Income Brackets (DZD)	Income Difference (DZD)	Tax Rate (%)	Tax Amount (DZD)
Less than 240,000	240,000	0%	0
From 240,000 to 480,000	240,000	23%	55,200
From 480,000 to 960,000	480,000	27%	129,600
From 960,000 to 1,920,000	960,000	30%	288,000
From 1,920,000 to 2,445,000	525,000	33%	173,250
Total	2,445,000	/	646,050

Thus, the amount of income tax resulting from the taxable agricultural income of 2,445,000 DZD is 646,050 DZD.

Conclusion:

In this study, we addressed the accounting and tax treatment of the agricultural sector in Algeria by highlighting the necessary accounting entries for various operations carried out by agricultural enterprises, whether related to plant or animal biological assets. We arrived at several conclusions:

- The agricultural sector is characterized by specific features that distinguish it from other sectors, leading to various accounting challenges in terms of recognition, measurement, and disclosure. This is due to the nature of this activity, which is influenced by numerous natural factors and climatic conditions. Additionally, the fiscal year varies depending on the nature of the agricultural product, which is subject to seasons. There is also the possibility of some finished products transforming into biological assets, and the reclassification of agricultural assets into fixed or current assets depending on the purpose of acquisition.
- The accounting treatment of plant and animal biological assets does not differ significantly from the accounting treatment in other production enterprises that acquire fixed assets and raw materials, which are then converted into finished products for sale. This is achieved by adapting the accounts of the Financial Accounting System to the specifics of this sector.
- The tax legislator has provided preferential tax treatment for the agricultural sector compared to other sectors by subjecting it to a single income tax while exempting it from the professional activity tax and value-added tax. Additionally, numerous tax advantages have been established, whether within the framework of tax laws or the incentive system, to encourage and promote this sector.

- It is important to note that the effectiveness of tax incentive policies in encouraging the agricultural sector remains limited, given that the agricultural sector is almost entirely tax-exempt. This makes the role of these incentives marginal. Therefore, promoting the agricultural sector is not solely related to tax aspects but also extends to other non-tax factors, such as the presence of an investment-friendly environment and overall stability that allows farmers to initiate and enhance their projects. This situation reflects the extent to which conducive conditions for investment are available.

Recommendations:

- At the end of this study, we present a set of recommendations summarized as follows:
- The neglect of a financial accounting system for a special agricultural sector accounts code has led to disparities from one agricultural investor to another. Therefore, it is necessary to establish a special agricultural sector accounts code in addition to finding solutions to accounting problems related to recognition, disclosure, and accounting measurement.
- Despite the preferential tax treatment given to the agricultural sector by the legislator through subjecting it to a single tax on agricultural income, the method of calculation remains somewhat complex due to its linkage to what the farmer declares and what is determined by the local committee in terms of definitions. Therefore, the recommendation we advocate in this regard is the necessity of subjecting this sector to a single progressive tax system while introducing preferential rates specific to it in order to support it and simplify its tax treatment.

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