

# Liquid Gold

**THE NEXT GROWTH OPPORTUNITY  
IN AGRICULTURE IN COLOMBIA**





# The Cacay

**The Cacay is a tree that reaches between 15 and 20 m in height (49 to 65 feet) are either males or females, is a rustic species, highly adaptable to acidic soils with high aluminum content, it is also considered one of the most promising species of the Amazon region and the Colombian Orinoco.**



# The Cacay

The Cacay (*Caryodendron orinocense* K.) belongs to the Euphorbiaceae family, of which about 60 genera and about 529 species form part, being one of the largest and most diverse families within flowering plants.

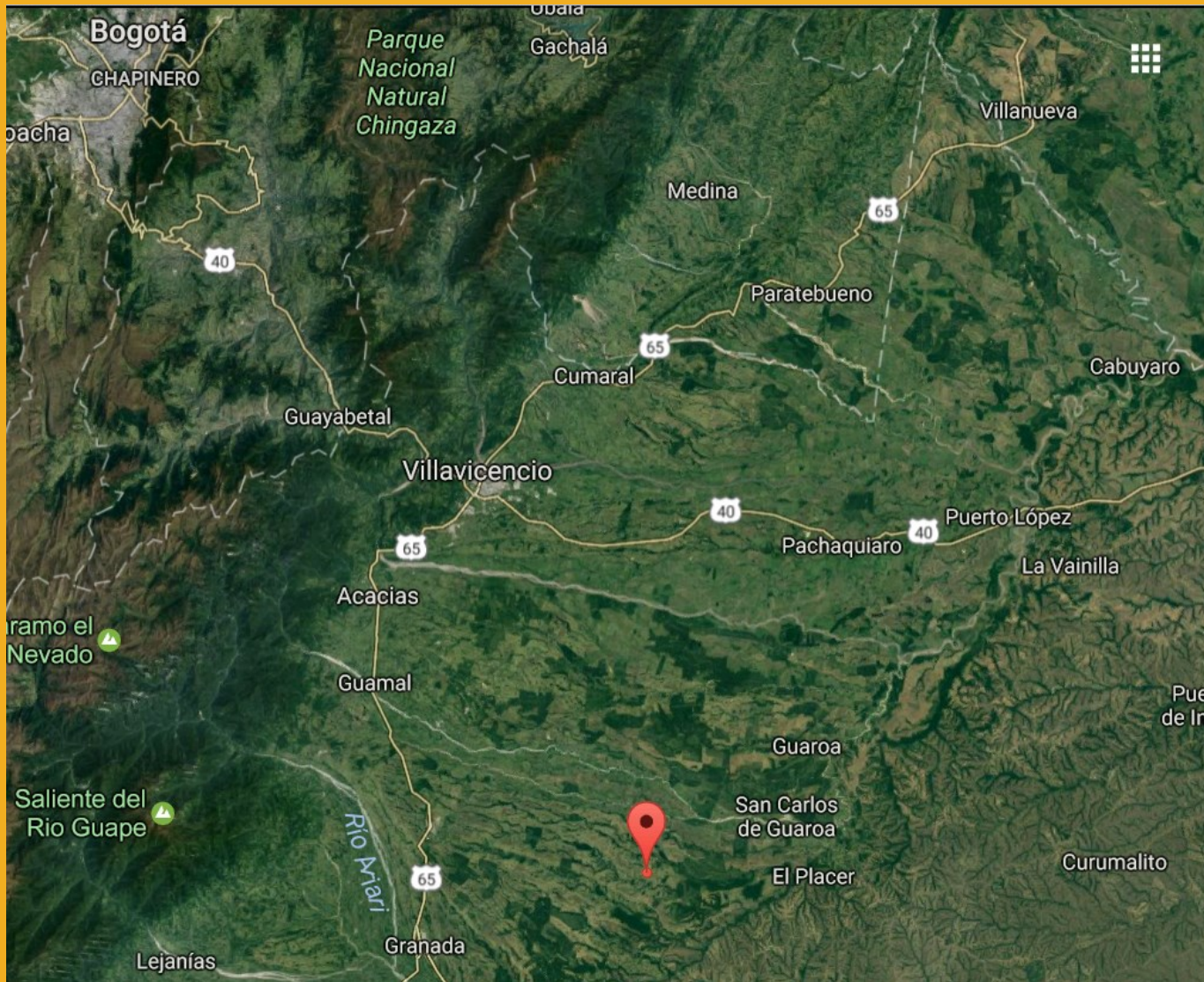
Known in different parts of the world as Metohuayo (Peru); Inchi, cacay, tacay (Colombia); Cacay, ñambi, peanut from tree (Ecuador); walnut stick, Barquisimeto nut (Venezuela), Pork Chestnut (Brazil). It is a native species of the western Amazon, and is widely distributed in the Amazon basin in Colombia, Ecuador, Peru and Venezuela.



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# Project location – Meta State

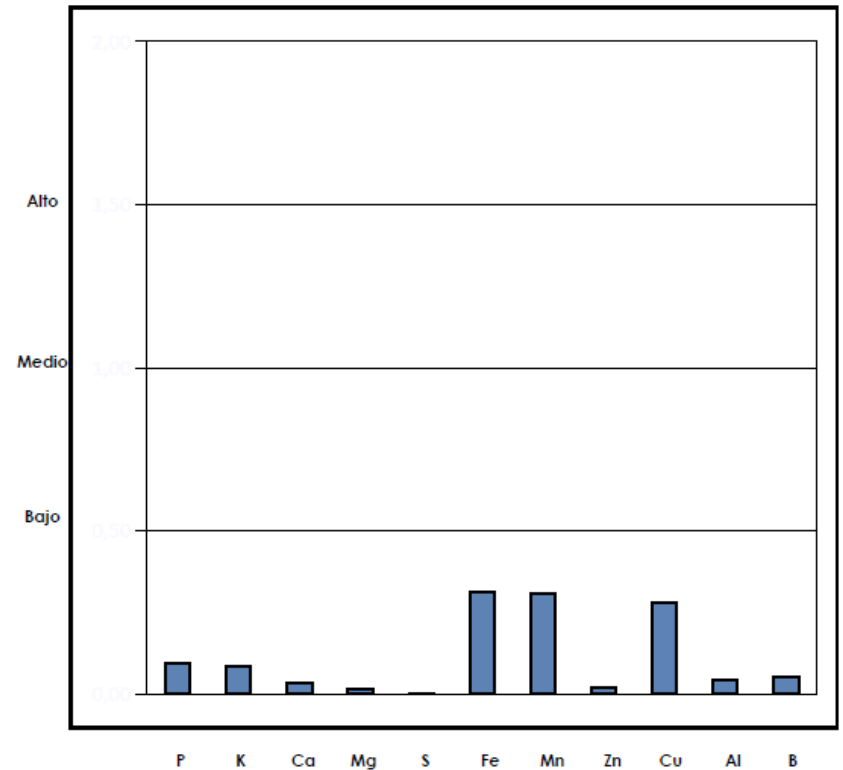


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The location of the farm is 3.637078,-73.421989

# Soil Analysis

PARÁMETROS	RESULTADO	INTERPRETACIÓN
TEXTURA		
% Arena	6%	Limoso
% Limo	90%	
% Arcilla	4%	
TEXTURA		
pH	5,13	Fuertemente ácido
Alum. Int.(Al) cmol/kg	1,3	Alto
ELEMENTOS MAYORES		
% C.O.	0,99	N/A
Fósforo (P) ppm	3,72	Bajo
Potasio (K) cmol/kg	0,03	Bajo
ELEMENTOS SECUNDARIOS		
Calcio (Ca) cmol/kg	0,21	Bajo
Magnesio(Mg) cmol/kg	0,07	Bajo
Azufre (S) ppm	0,03	Bajo
ELEMENTOS MENORES		
Cobre (Cu) ppm	0,84	Bajo
Hierro (Fe) ppm	31,02	Medio
Zinc (Zn) ppm	0,07	Bajo
Manganeso (Mn) ppm	4,57	Bajo
Boro (B) ppm	0,03	Bajo
SALINIDAD Y SODICIDAD		
C.E. dS/m	0,064	Bajo
Sodio (Na) cmol/kg	0,12	adecuado
%Na	4,46	Ideal



## RELACIONES DE ELEMENTOS

C.I.C.E	Saturación de Cationes				
cmol/kg	% Ca	% Mg	% K	% Al	Bases
2,58	8,11	2,59	1,3	50,49	N/A
Muy Bajo	Deficiencia Ca	Deficiencia Mg	Deficiencia K	adecuado	N/A

## RELACIONES DE ELEMENTOS

Ca+Mg/K	Mg/K	Ca/Mg	Ca/B	Fe/Mn	P/Zn
8,21	1,99	3,13	1617,07	6,78	50,42
Deficiencia Ca Mg	Deficiencia Mg	Adecuado	Adecuado	Deficiencia Fe	Deficiencia Zn



# Planting

**Female and male trees are planted at a rate of 256 trees per hectare.**

- Grafted trees, sexed and adapted to the sun.
- The substrate contains a blend designed for better root development and enriched with microorganisms that support tree nutrition.
- Trees are fertilized and fumigated to reduce risks in the planting.





# Project to Date – Phase I



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# Project - Phase II

- 70 hectares
- 12,000 trees to be planted  
( 6,000 in 2021 and 6,000 in 2022)

Investment Required (usd650,000)

- usd350,000 land
- Usd300,000 tress, planting and maintenance



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# Project - Phase III

- 70 hectares
- 12,000 trees to be planted  
( 6,000 in 2023 and 6,000 in 2024)

**Investment Required (usd720,000)**

- usd420,000 land
- Usd340,000 tress, planting and maintenance



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# Cacay Uses

**The Cacay, in addition to the use of its trunk as wood, its shell as a fuel and the nut as food, its most important use is the production of oil from the seed, becoming an excellent oleaginous plant, competing very advantageously with others like the African palm that is used for human consumption (Omega 3, 6 and 9) as well as for the production of cosmetics and pharmaceuticals.**





# Cacay Uses

The great potential of the Cacay is given not only by the quality of its oil but also by the cake, the remaining product of the extraction of the seeds, which can be used in animal feed, as it contains a high percentage of protein (43-46%) as well as minerals such as calcium and phosphorus.



# Cacay Nut

The Cacay nut offers nutritional value and with a protein content as high as 20% and the Cacay flour as high as 40%, the nut can be a great source for the daily protein needs of consumers.

NAME	Almond	Brasilian	Cacay	Cacay Nut	Chestnut	Hazelnut	Macademia	Pistacho
Energy	575Kcal	656 Kcal	574Kcal	553Kcal	213 Kcal	628 Kcal	718 Kcal	557 Kcal
Carbohydrates	21.67 g	12.27 g	8.2 g	30.19 g	45.54 g	16.7 g	13.82 g	27.97 g
Protein	21.22 g	66.43 g	15.9 g	18.22 g	2.42 g	14.95 g	7.91 g	20.60 g
Total Fat	49.42 g	66.43 g	53.1 g	43.85 g	2.25 g	60.75 g	75.77 g	44.44 g
Cholesterol	0 mg	0 mg	0 mg	0 mg	0 mg	0 mg	0 mg	0 mg
Dietary Fiber	12.20 g	7.5 g	17.6 g	3.3 g	8.1 g	9.7 g	8.6 g	10.3 g
<b>Vitamins</b>								
Vitamin A	1 IU	0 IU	300 IU	0 IU	28 IU	20 IU	0 IU	553 IU
Vitamin C	0 mg	0.7 mg	0.13mg	0.5 mg	43 mg	6.3 mg	1.2 mg	5 mg
Vitamin E	26 mg	7.07 mg	45 IU	5.31 mg	0	15 mg	0.24 mg	22.60 mg
<b>Electrolites</b>								
Sodium	1 mg	2 mg	7 mg	12 mg	3 mg	0 mg	5 mg	1 mg
Potassium	705 mg	597 mg	778 mg	660 mg	518 mg	680 mg	368 mg	1025 mg
<b>Minerals</b>								
Calcium	264 mg	160 mg	240 mg	37 mg	27 mg	114 mg	85 mg	107 mg
Copper	0.996 mg	1.743 mg	0.78 mg	2.195 mg	0.447 mg	1.725 mg	0.756 mg	1.3 mg
Iron	3.72 mg	2.43	1.4 mg	6.68 mg	1.01 mg	4,7 mg	3.69 mg	4.15 mg
Magneseuim	268 mg	376 mg	323 mg	292 mg	32 mg	163 mg	130 mg	121 mg
Manganese	2.285 mg	1.223 mg	2.2 mg	1.655 mg	0.952 mg	6.17 mg	4.131 mg	1.2 mg
Phosphorous	484 mg	725 mg	567 mg	593 mg	90 mg	290 mg	188 mg	376 mg
Selenium	2.5 mg	1917 mg	0 mg	19.9 mg	0	0	3.6 mg	7ug
Zinc	3.08 mg	4.06 mg	3.4 mg	5.78 mg	0.52 mg	2.45 mg	1.30 mg	2.20 mg



# Cacay Oil

- The nut is about 53 percent oil
- The high oil content in the Cacay seed (57% by weight) gives a yield per crop of up to 5000 kilograms of oil per hectare.
- A crop of 1 hectare has a production capacity of 2.5 to 3 Tons of oil per year and at a price of usd\$4,000 per ton it is usd\$6,000 to \$12,000
- The oil produced by the plant is obtained by the technique of extraction by simple pressing
- There are only two companies extracting of Cacay oil for which the plant has an important advantage: exclusivity



# Cacay Skin Care

Cacay contains key ingredients in anti-aging products, including antioxidants and retinoids

The cacay oil has been used by the indigenous people of the Amazon to heal burns for irritation and to improve the healing process of cuts



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# Cacay Skin Care

**The properties of the cacay oil have shown many improvements including:**

- Reduction of signs of aging (expression lines, dryness, wrinkles)
- Promotes skin cell renewal
- Improves skin hydration
- Increases long lasting hydration and moisturization
- Illuminates and restores skin radiance
- Improves skin firmness
- Protects and strengthens the skins natural protective barrier
- Helps prevent stretch marks during pregnancy and improves the look of existing ones
- Reduction of skin spots
- Improves skin smoothness
- Improves skin Elasticity
- Helps hair and nail repair



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# Cacay Other Value Added Products

- Cacay Bars
- Cacay nuts covered with Chocolate





# Cacay Cake

The protein-rich cake that's left over after pressing for oil is a nutritional supplement. The cake can be used in animal feed, as it contains a high percentage of protein (43-46) and minerals such as calcium and phosphorus



# Market Study

- The cacay has become a red-hot commodity, providing the key ingredient to anti-aging facial creams that can fetch \$200 an ounce in beauty shops in Los Angeles and London.
- The small but growing appeal of cacay in the \$465 billion personal-care market has been fueled by the increased popularity of Morocco's argan oil, which got picked up by hair-care makers such as L'Oréal and Unilever NV, and is now included in 14 percent of new hair treatments, according to market research from Mintel.
- One ounce of the "facial elixir" with cacay is offered for \$198 and a men's shaving oil version a three-item set of anti-aging products with cacay retails for 1,060 pounds (\$1,555) at Harrods department store in London.





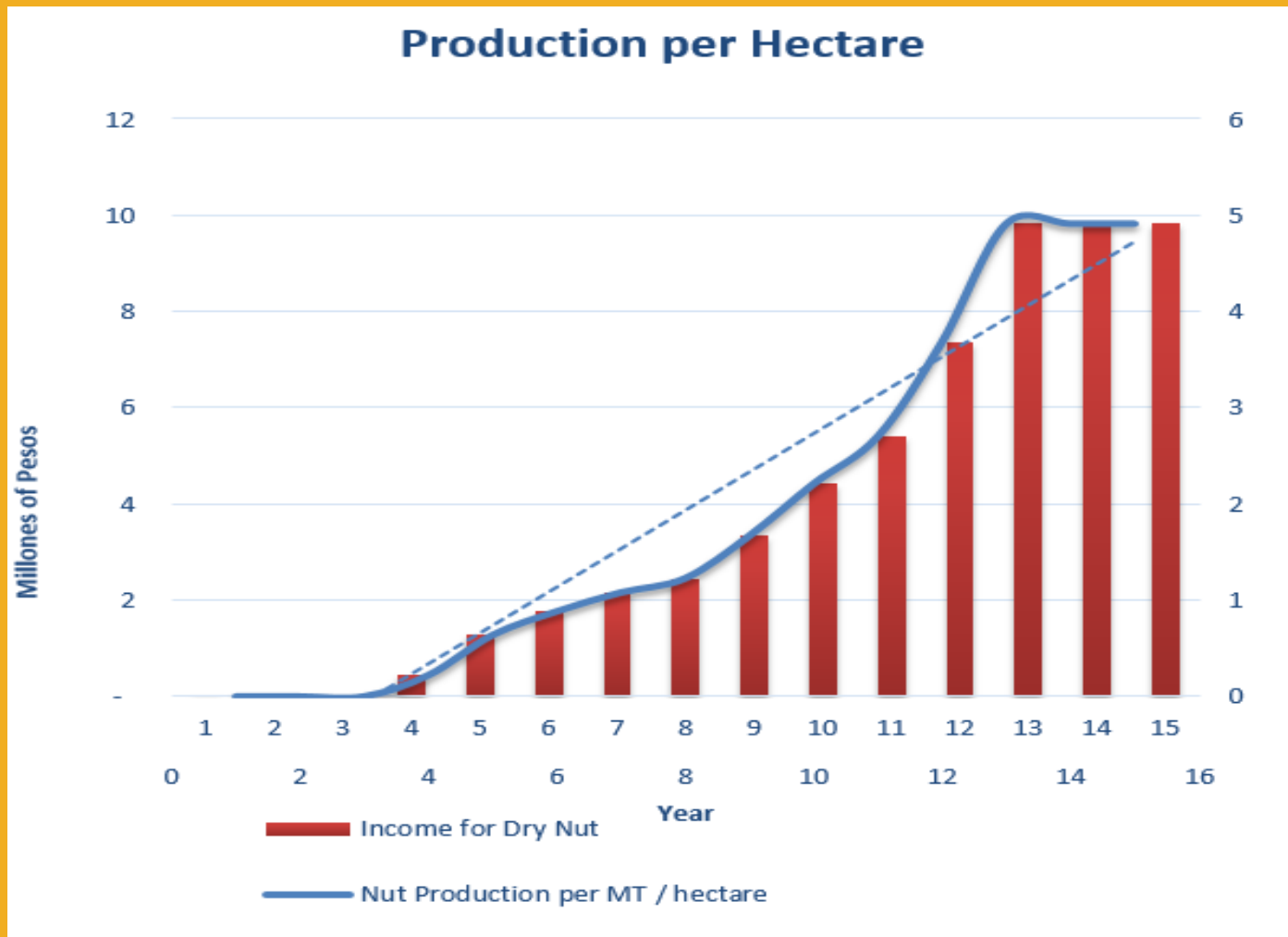
# Market Study

1. Hair and Care
2. Sun Care
3. Bath & Shower
4. Fragrances
5. Oral Care
- 6. Skin Care (135B)**
7. Deodorants
8. Color Cosmetics



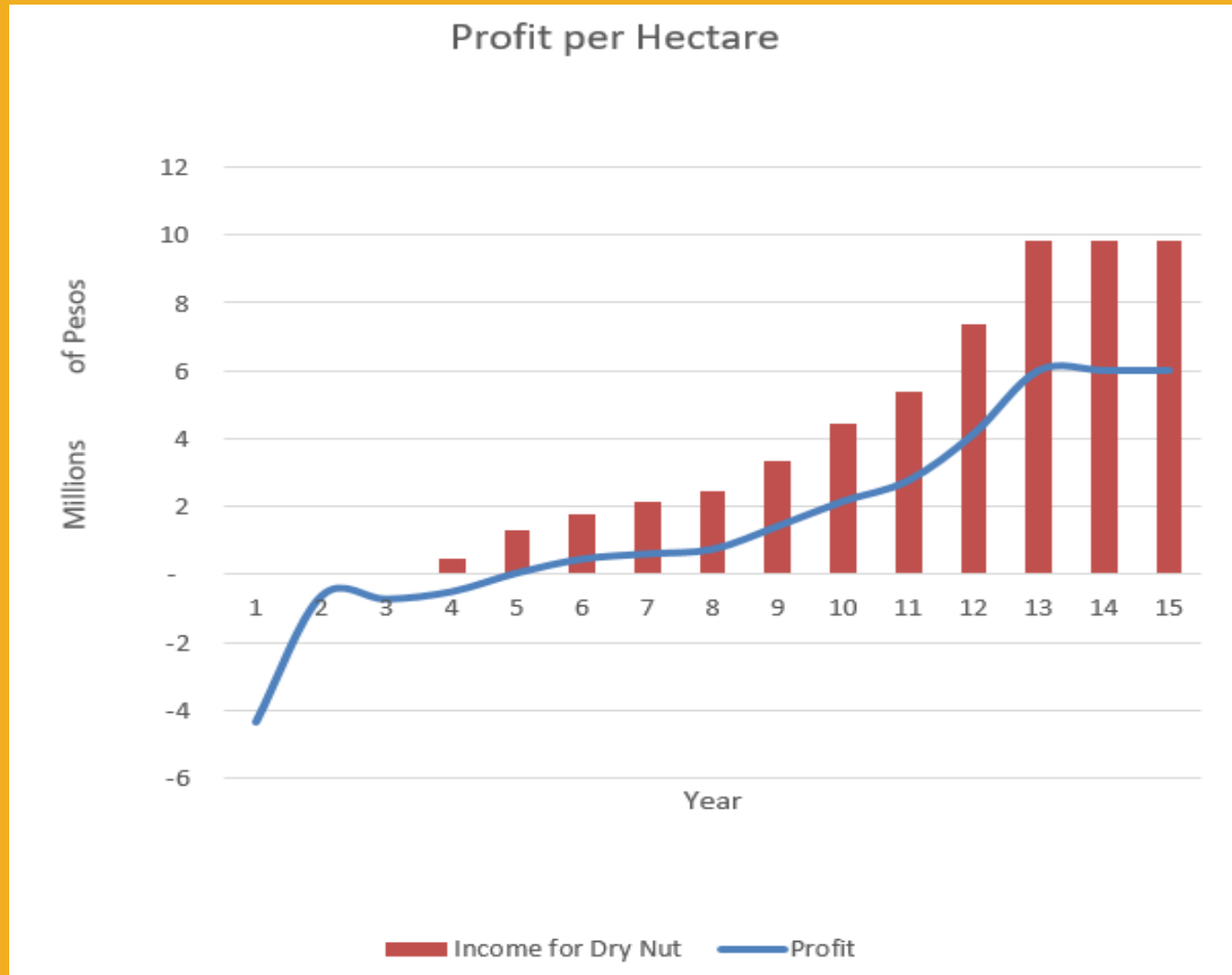
# Prices - Nut

- Average annual tree production per year is estimated at 3MT / hectare
- Sales prices is estimated at usd690 / MT
- Income per hectare usd2,070

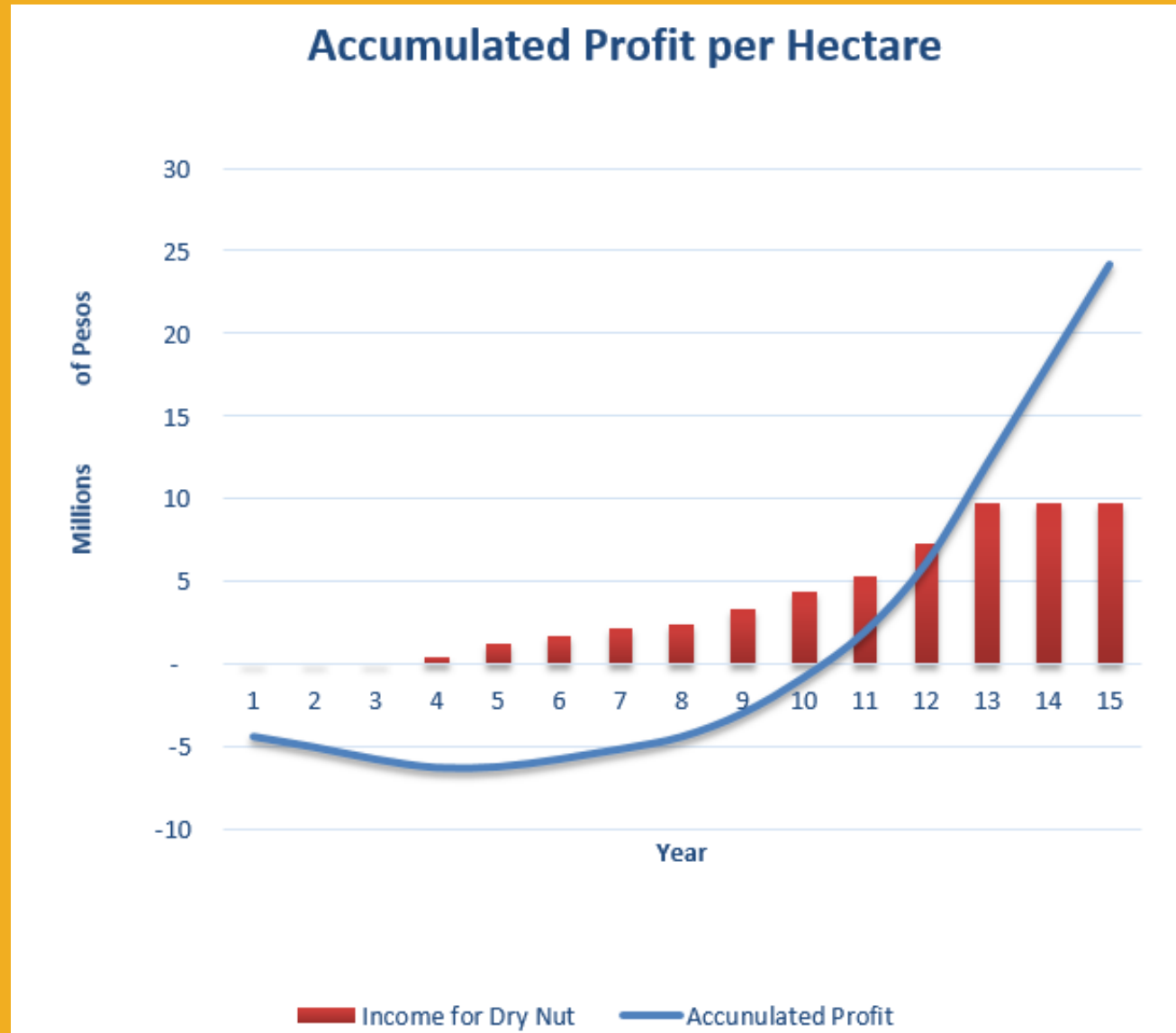




# Nut Production



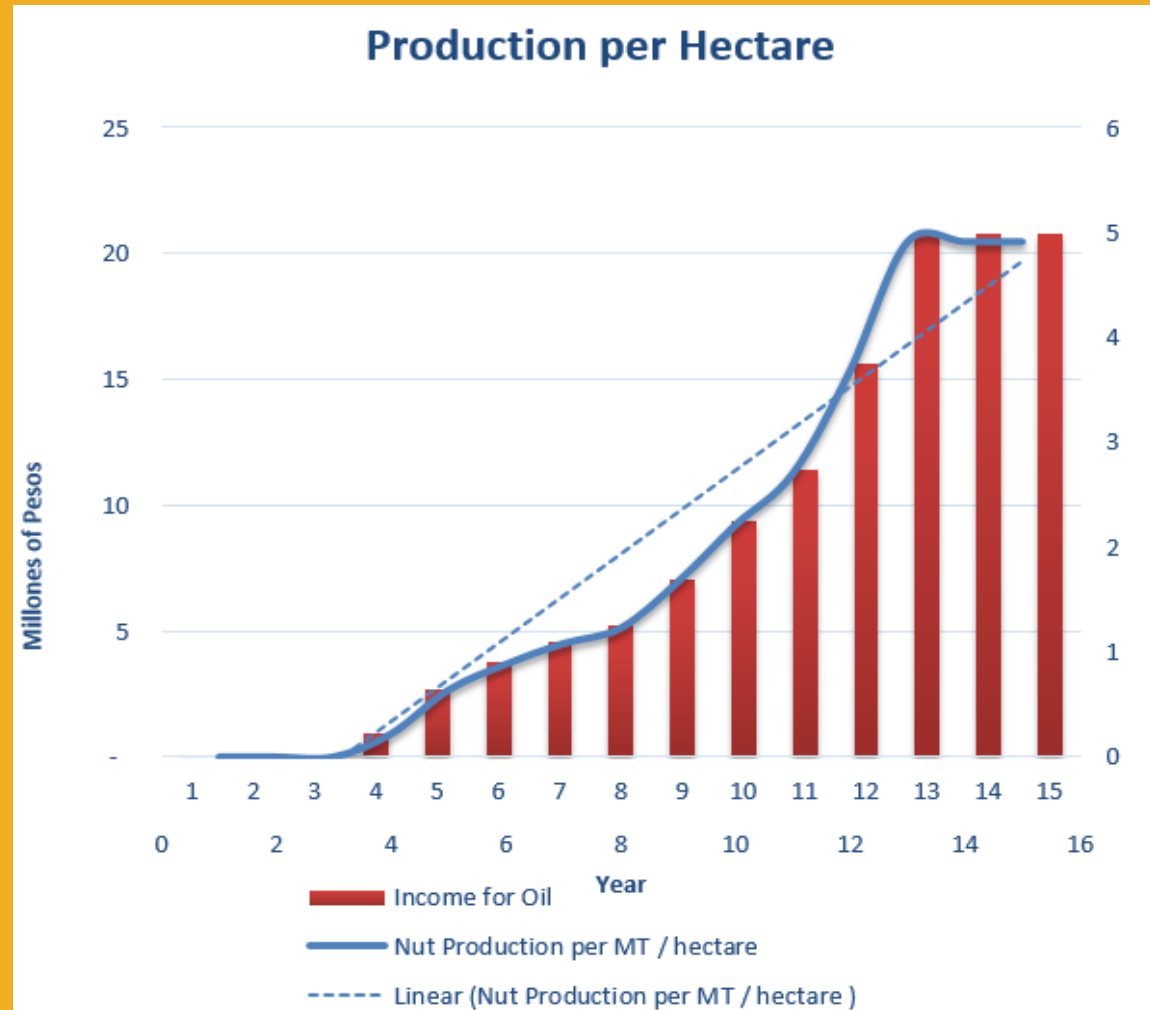
# Nut Production



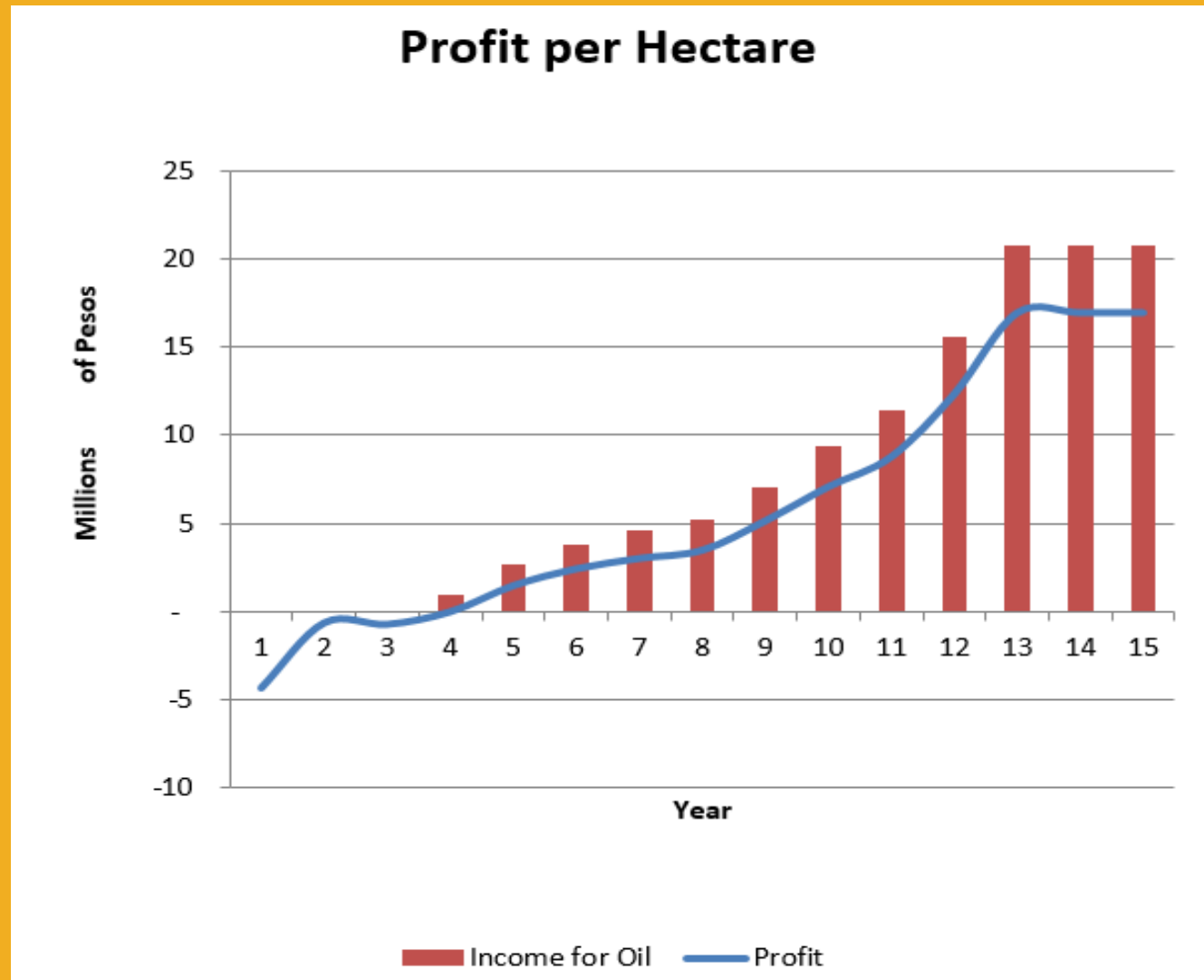


# Prices Oil

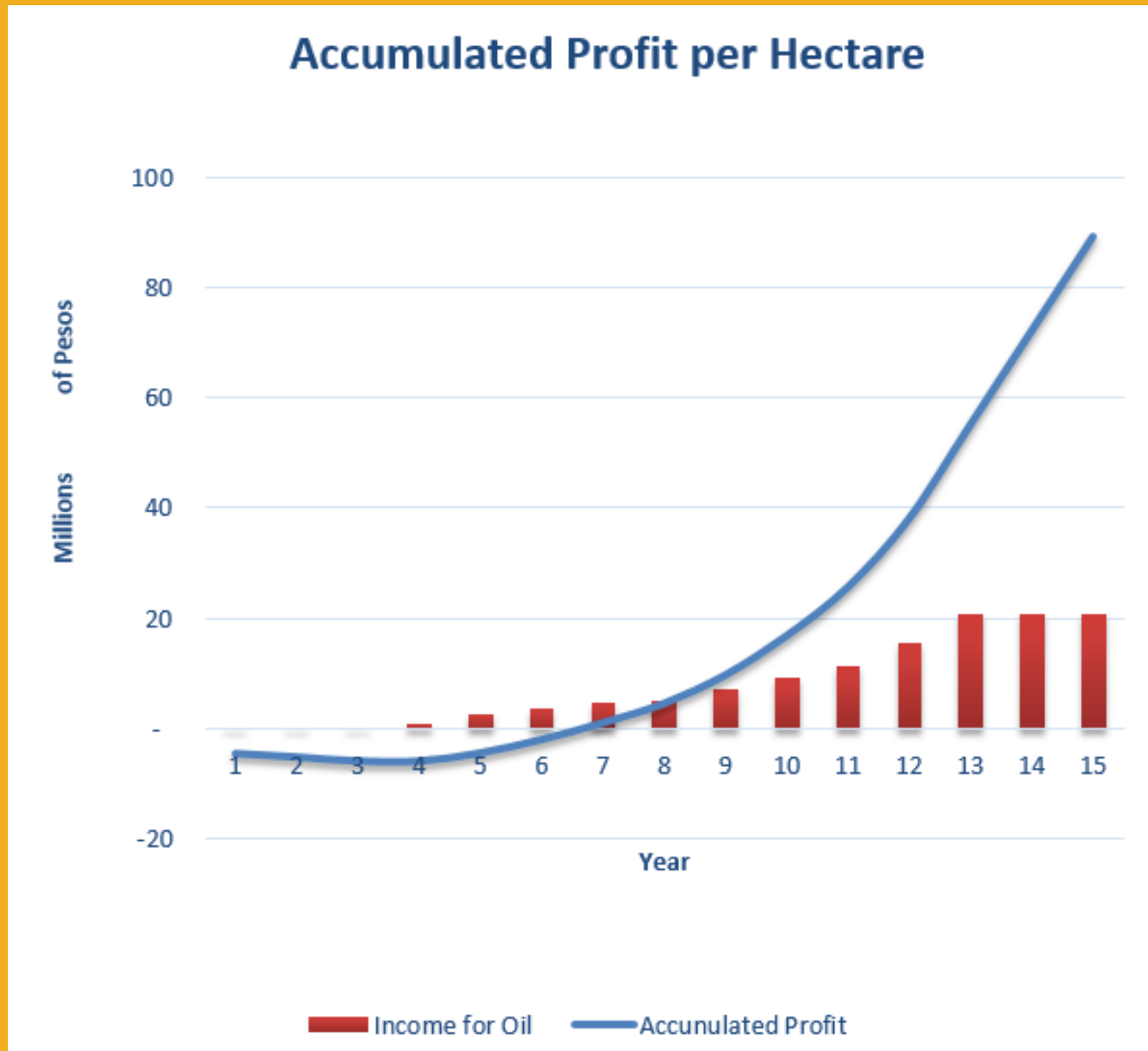
- Average annual tree production per year is estimated at 3MT / hectare
- Sales prices is estimated at usd\$1444 per MT
- Income per hectare usd4,765



# Prices – Oil



# Prices Oil





# Prices Cake

- Average annual tree production per year is estimated at 3MT / hectare
- Sales prices is estimated at usd325/MT
- Income per hectare usd975



# Comparason of Cacay with other crops

## Sources:

Rubber: Bancolombia

Palm: Model Indupalma

Wood: Reforestadora de Arauca

## Considerations:

Comparison of direct costs per hectare without the land.

Values calculated at constant prices.

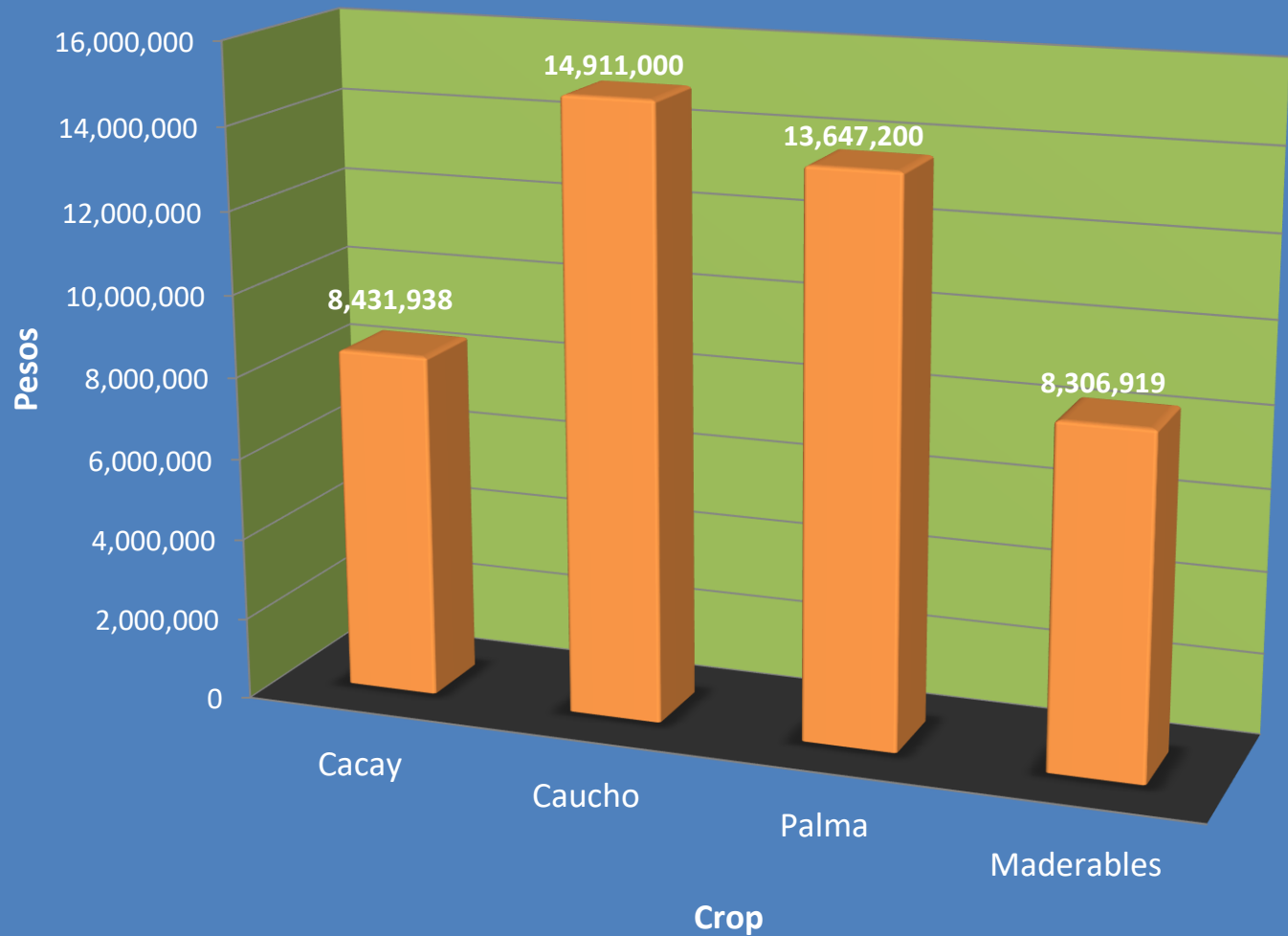
Numbers before taxes.

Cash flow including replanting of crops with shorter cycle.

It is assumed that the produce is purchased near the crop.

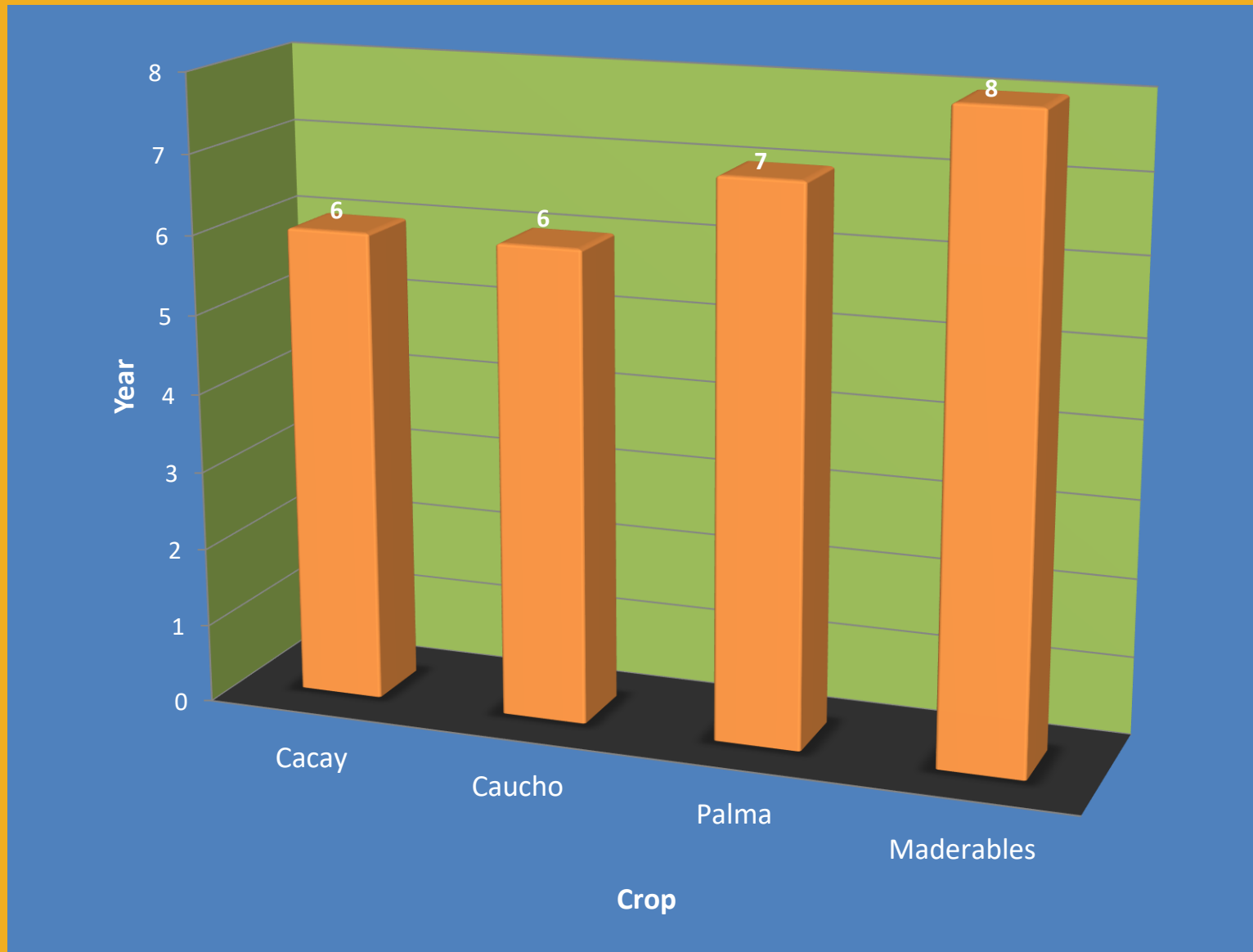


# Investment by Hectare to Equilibrium Point

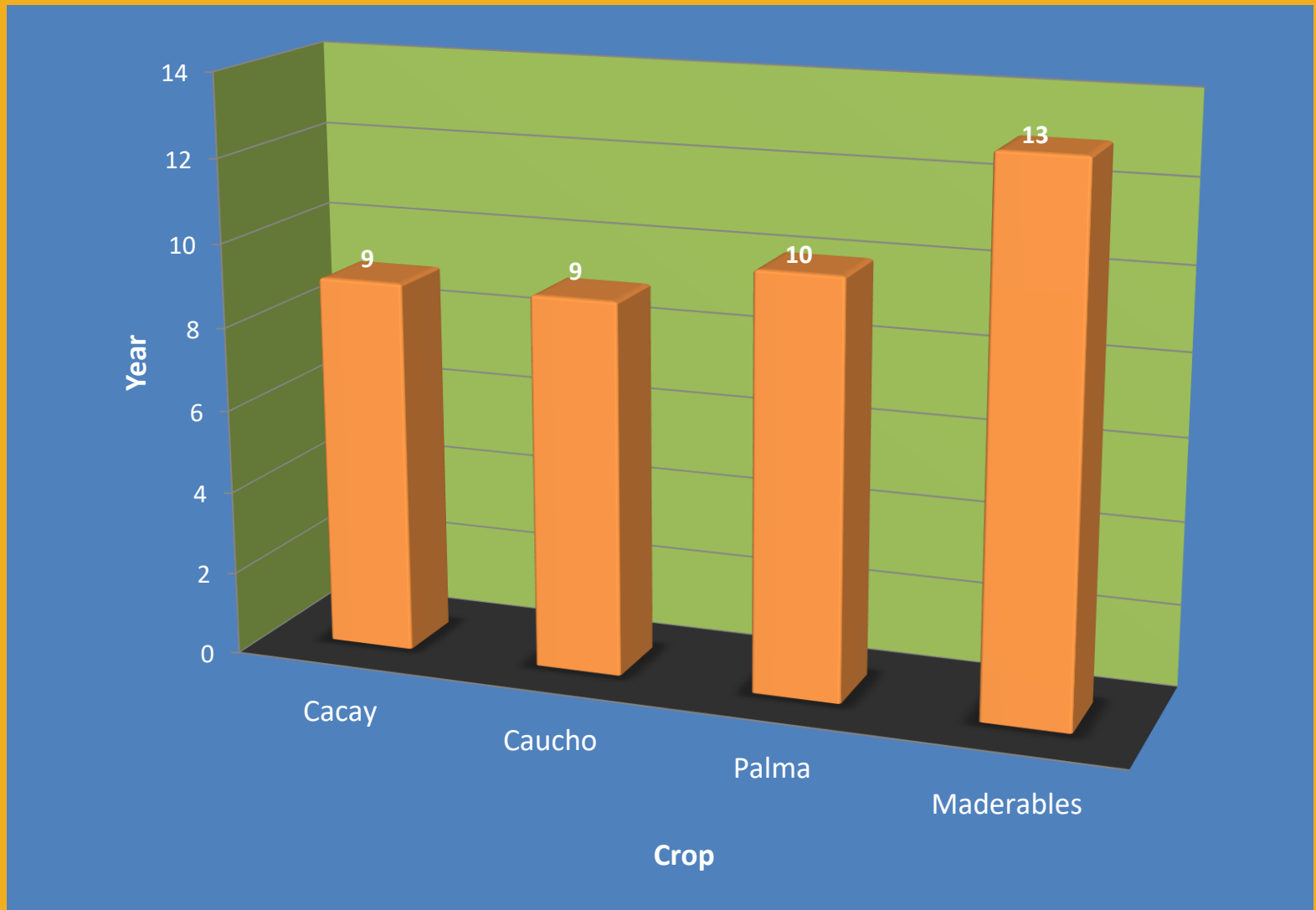




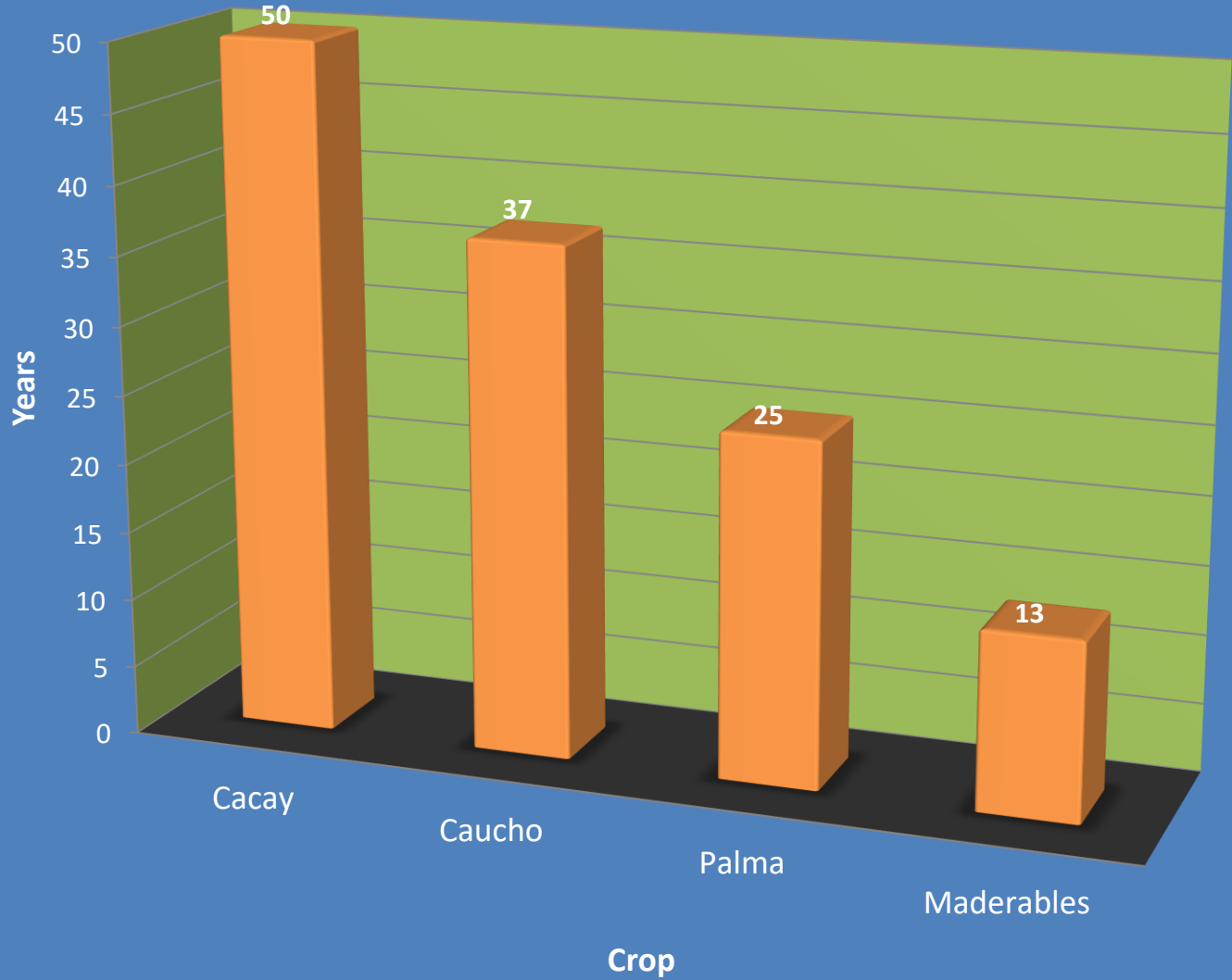
# Equilibrium Point



# Return on Investment without the Land

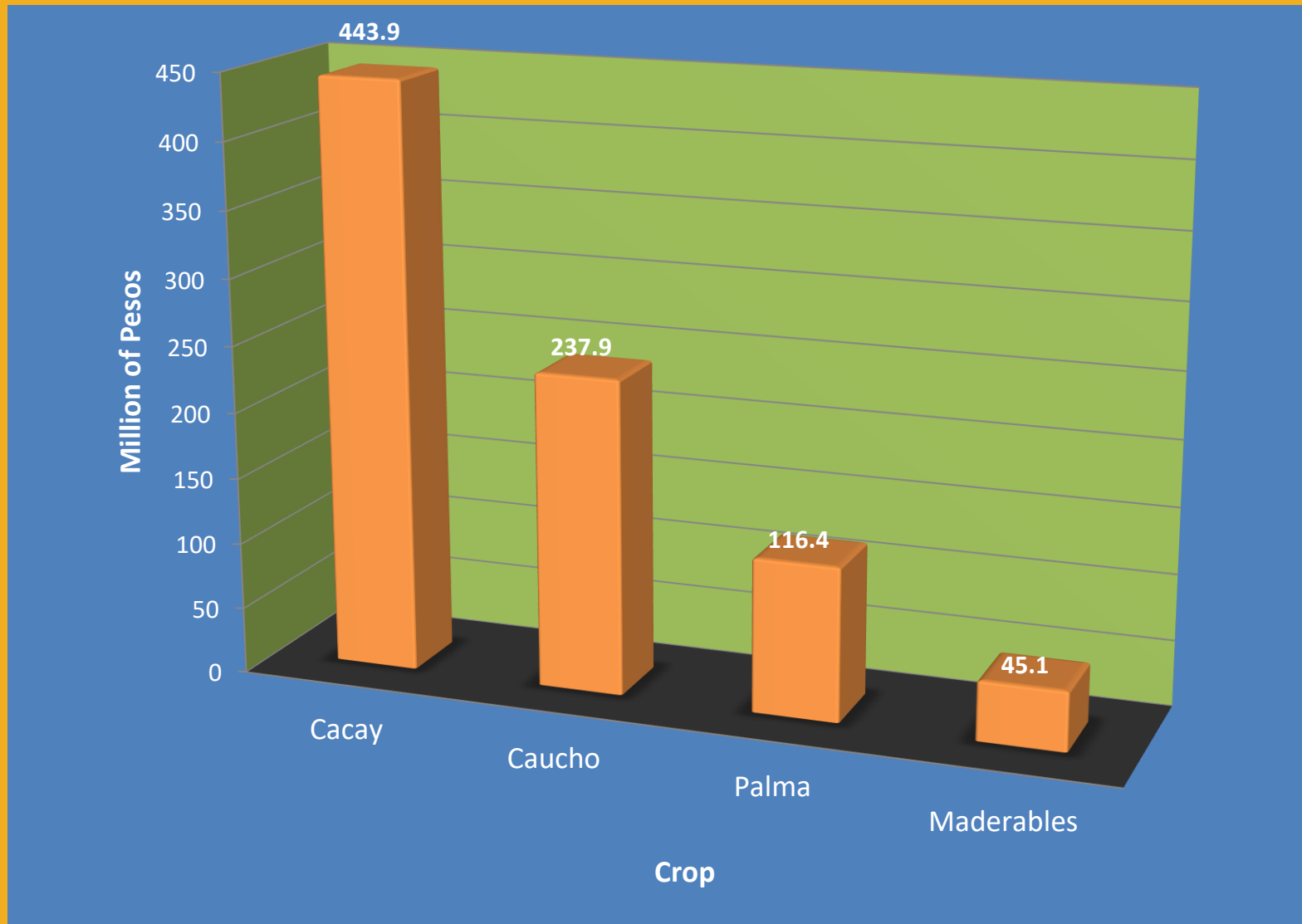


# Production Years

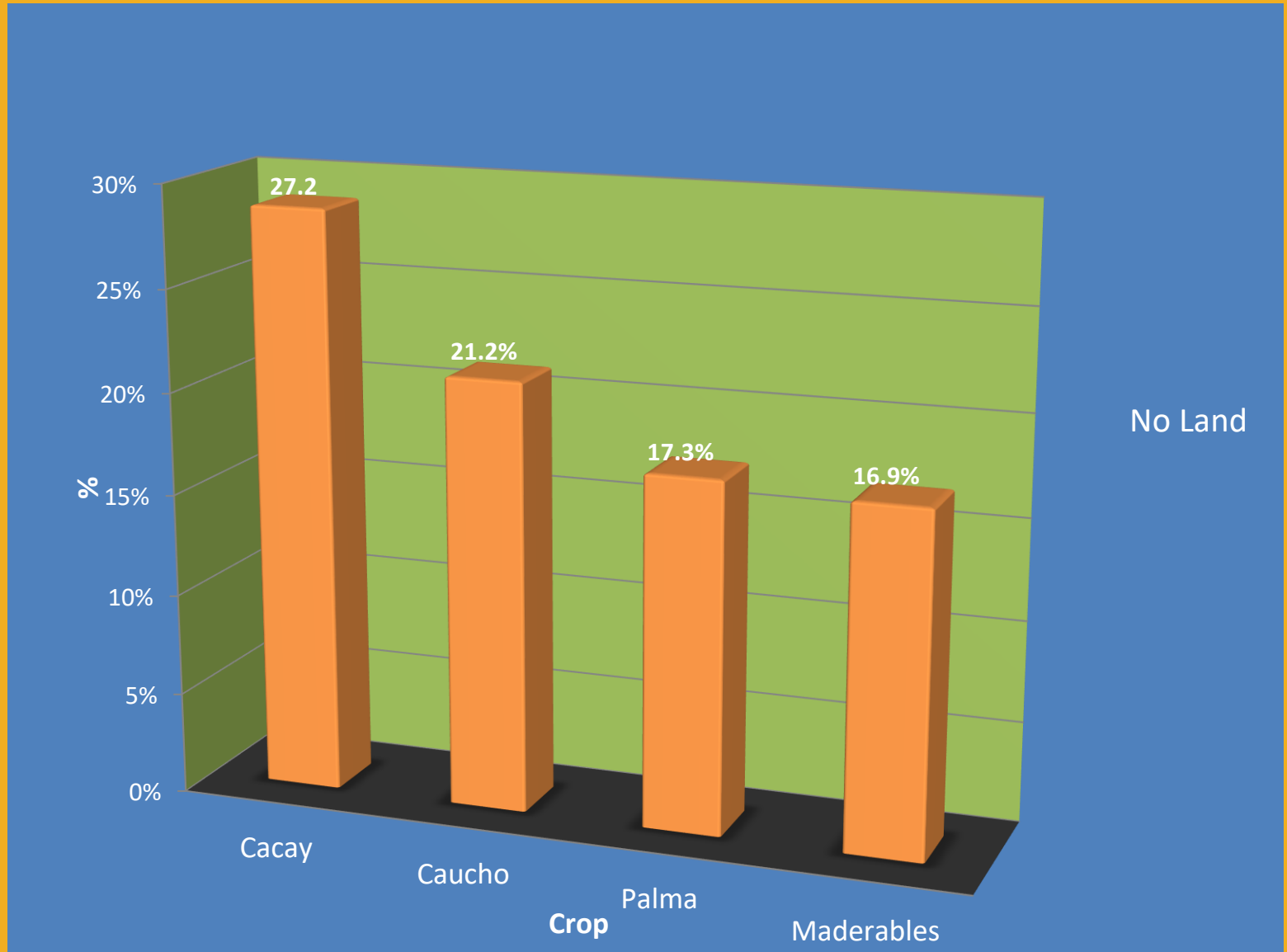




# Accumulated earnings per Hectare in 50 Years



# Internal Rate of Return



# World Food

The world's population is 7.8 billion and we all need to eat. Major companies around the world have focused on increasing yields with existing farm lands, but land is limited and other sources of sustainable food such as a high protein nut like Cacay can be part of the food supply.





# Advantages

- Native tree species
- No need for any equipment to get the nut, the harvest falls to the ground alone
- No animals or diseases to threaten the yield of the tree
- Exclusivity in the market
- Variety of products in different markets
- Value added products with high margins



# The Offer - Phase III



- **Buy 70 hectares**
- **12,000 trees to be planted**  
( 6,000 in 2023 and 6,000 in 2024)

**Investment Required (usd720,000)**

- **usd420,000 land**
- **Usd300,000 tress, planting and maintenance**



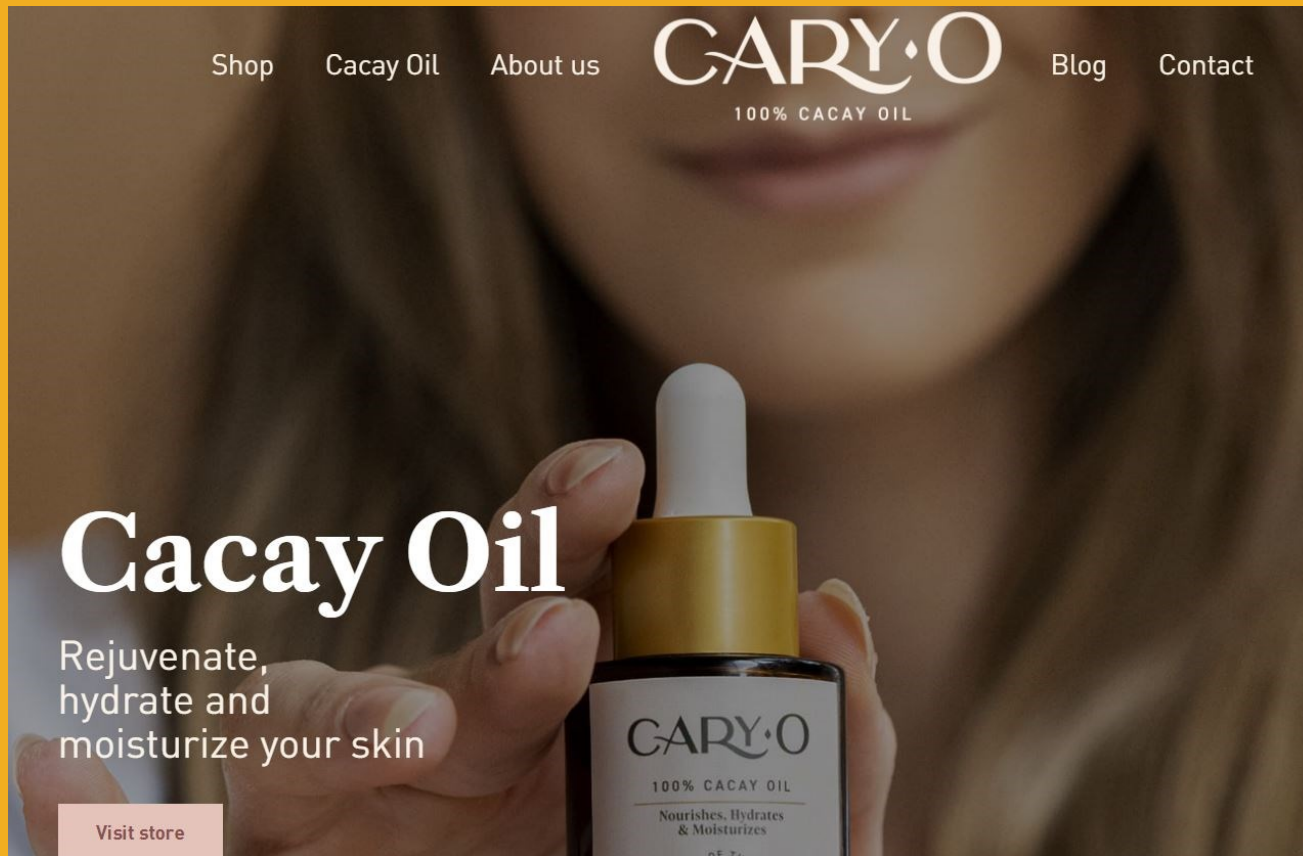
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# The Offer

	Annual Tree Production Per Hectare in MT	Income per Hectare	Cake & Oil	Cake & Nut
Cake	3	\$ 960.00	\$ 960.00	\$ 960.00
Nut	3	\$ 2,070.00	0	\$ 2,070.00
Oil	3	\$ 4,332.00	\$ 4,332.00	0
Total Income per Hectare			\$ 5,292.00	\$ 3,030.00
Total Income for 70 Hectares			\$ 370,440.00	\$ 212,100.00
IRR to 25 years: 20.54 (Nut Only)				
Estimated production time: Over 80 years				



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