

## Diagnosis of the Productive Cavic Situation in the Modules 7.1; 12,1 And 48 of the Ambato Huachi Pelileo- Tungurahua Irrigation System

### Research Article

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### Abstract

The present research was just 7.1 in the modules; 12.1 and 48 of the Irrigation System Huachi Ambato - Pelileo, for the purpose of diagnosing production cavícola users via surveys and the creation of a database, which determined that the process of breeding, feeding and reproductive management is practiced more than 10 years ago as a family activity, feeding is done mostly for age base, the predominant line of existing guinea pigs is into a total of 3330 units cavícolas 882 females, 152 males and 2296 cash animal weaning 1709 which are fattening and 587 as breeding or replacement, the deworming is done by 22% of users while 78% do not; antibiotic treatment is done by 25% while 75% do not realize, having poor health status in the three modules respondents. Marketing 99% of users surveyed intended animal production cavícola market area Ambato, Pelileo, Cevallos and Quero, while 1% knew indicate that delivers directly to a restaurant, because the location geographical, mobilization and a suitable place to market the guinea pigs causes families to lose interest in the guinea pig production on a larger scale so that this activity becomes a hobby and sometimes do not see a profitable job. Adding to this the lack of association of users. As for profitability through the case study allowed us to establish that the 7.1 module is 0.85 cents, while the module is 12.1 cents and 0.73 in the module 48 is 0.46 cents per animal feet, realizing that their profitability would increase if they sell breeding stock. Due to the low income users in three modules lose interest in the production of guinea pigs and therefore will not allow a sustainable development of its economy devoted too their activities.

**Keywords:** Feeding, Breeding; Forage; Reproductive management

### Introduction

A study carried out on the Situational Diagnosis of guinea pig breeding in an area of Cajamarca determined. Breeding of guinea pigs in the Santa Cruz district is traditionally conducted, based on inputs and labor available in the home. The guinea pig production system identified and characterized is of a family type. The limiting factors identified include poor management techniques, ignorance of the guinea pig's reproductive physiology, poor feeding,

inadequate facilities, lack of sanitary plans, and poor productive and reproductive yields [1].

A study carried out on the Characterization of guinea pig production for associative marketing in the "Pakusumi" association of the Pasa parish in the province of Tungurahua determined. 86.06% of the members raise the guinea pigs but do not market the month contrary they use them for their consumption, only the remaining 10.94% fatten

them to market them in their sector; if an association were created with a large number of marketing production partners, they would have more possibilities of finding a market for their final product [2]. Users of the Ambato - Huachi - Pelileo Irrigation System consider that the support of public institutions oriented to farming is limited, the farmer does not have technical support for his crops and animals on the farm. A low percentage have technical support, but from input supply companies in their offices located in the city of Ambato and Pelileo [3].

An investigation carried out on the Agroproductive Study of the agricultural Technologies used in the middle area of the Cantón Quero, Tungurahua Province determined that a baseline is a key tool to encourage communities to improve their level of production and sales, and therefore to obtain a higher degree of profitability in the short, medium and long term [4]. According to the [5], it states that guinea pigs are small monogastric herbivorous rodents, which are characterized by their great rusticity, short biological cycle and good fertility. These advantages have favored its exploitation and have generalized its consumption, especially in Colombia, Ecuador, Peru and Bolivia.

As [6] points out, it is the most wide spread system, and it is distinguished by developing with in the family, mainly based on surplus inputs and labor. It is common to find production nuclei of 10 to 50 animals. The average of guinea pigs per family in the countries with the highest production (Peru, Ecuador and Bolivia) is 20. The number of animals is mainly determined by the availability of food. Guinea pig meat is usually marketed in local markets.

As [6] points out, a population of no more than 500 guinea pigs is maintained in this system. Better breeding techniques are put into practice, which results in the composition of the lot. Health control is stricter. Breeding is carried out in places in adequate facilities. Breeding ponds are built with materials from the area itself. Guinea pigs are grouped into lots by age, sex and class, which is why this system requires more labor for pasture management and maintenance. As [6] points out, it is poorly developed, more confined to valleys near urban areas where there is a demand for guinea pig meat, commercial farming is the main activity of an agricultural company that uses appropriate technology. Select line animals, precocious, prolific and efficient feed converters are used. Of the total guinea pig population, 32% represents the breeding stock, a proportion that reflects the efficiency of reproductive management and the greater survival of the off spring.

According to [7], the inti line is selected for its earliness corrected for the number of hatchlings born, it is the one that best adapts at the producer level, achieving the highest survival rates. It reaches an average weight of 800g at ten weeks of age, with a prolificity of 3.2 off spring per farrowing. The color of the bay (yellow) whole or combined with White predominates in the coat. Andean Line. According to [7], the Andean line is characterized by its high prolificity, which is 5 offspring per calving and the identification color is pure white. The Creole. According to [7], the Creole guinea pig is also called native, it is a very rustic small animal due to its acclimatization to the environment, not very demanding in terms of the quality of its food, which develops well in adverse climate and feeding conditions. It is raised mainly in the family system, its productive performance is low and it is not very early. The improved Peruvian. According to [8], it is the Creole guinea pig under going a process of genetic improvement. It is early due to the effect of selection. In the Andean countries it is known.

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### Materials and Methods

The focus of the search was mixed, qualitative and quantitative: Quantitative because it consisted of "using data collection and analysis to answer research questions and relied on numerical measurement, counting, and frequently on the use of statistics to establish with accuracy of behavior patterns in a population". The quantitative approach was taken because an inductive process was carried out, that is, the phenomenon under study was explored and described to obtain the theoretical perspectives of the research that was carried out. The investigation had a mixed modality since a bibliographic investigation and field investigation were carried out. Due to the field, due to the nature of the action, it is documentary or bibliographic. This investigation was deductive. Since the results of the search obtained using the survey data were presented. This research was carried out in modules 7.1; 12.1 in the Lat / Lon coordinates (-1.28, -78.61) and in module 48 in the Lat / Lon coordinates (-1.31, -78.53) of the Ambato Huachi Pelileo Irrigation System.

The Ambato - Huachi - Pelileo Irrigation System is located in the Tungurahua province in modules 7.1; 12.1 in the Lat / Lon coordinates (-1.28, -78.61) and in module 48 in the Lat / Lon coordinates (-1.31, -78.53) of the Ambato Huachi Pelileo Irrigation System.

The limits of the system are: to the North the Quebrada Terremoto, to the South Mocha Quero Ladrillos Irrigation System, to the East Main Channel and to the West Tangaiche. The system's irrigation zone is located in the cantons: Ambato, Cevallos and Pelileo; in the sectors of Montalvo, Huachis, Totoras, Picaihua, Cevallos, Andignato, Benítez, Salasaca, Rosario, Guantugsumo; watering from level 2940 to 2400 m.a.s.l. According to the country's hydrographic division, the system is located in the Pastaza River Basin, Río

Ambato Sub-basin. The Ambato River that crosses the chart in a west-east direction constitutes the main hydrographic axis of the area, feeding the waters of the Cutuchi and Patate Rivers. The Quebrada Ashpachaca, San Lorenzo, Terremoto, Huangana, and others are also important. The climate in general, and the pluvio metric regime in particular, depends largely on the orographic system of this region, being therefore quite complex.

## Results

The results obtained allow us to establish (Table 2), that the main form of land tenure refers to own property with 98% of the respondents, the users who have 2%, analyzed show that 99% the person in charge of the cavico farming is the mother of the family, 1% corresponds to the Children. According to the data obtained, 82% have their cavícola exploitation by inheritance while 7% have it by purchase of animals, 11% of the respondents answer that by exchange, like wise 100% answered that they do not belong to any association. For the purpose of purchasing their cavícola production, 63% state that they have received training in cavícola production by the state, while 37% state that they have not received training in cavícola production from any institution. Regarding that 37% received training in the comprehensive management of a cavicultural farm, 37% did not receive any type of training, 16% received training in nutritional management, 7% received training in health management, while 3 % stated that they received training in genetic management. 92% declare that the diet is based on forage, mostly alfalfa and corn leaf, 8% do it based on for age and concentrate, consisting of alfalfa, bran.

**Table 1:** Number of users of module 7.1; 12,1 and 48 of the ambato huachi pelileo irrigation system

Número	Módulo	Usuarios
1	7.1	125
2	12.1	78
3	48.1	113
TOTAL		310

According to Table (3), from the analyzed results we can establish that Module 12-1 has a surface área of 25725 m<sup>2</sup> destined for age cultivation, this being 40% of its total extension; while Module 7-1 has an area of 47852 m<sup>2</sup> destined for age cultivation, I feel this 28% of its total extension and Module 48-1 has an area of 62164 m<sup>2</sup>

**Table 2:** Cavic production in the modules 7.1; 12,1 and 48 of the ambato huachi pelileo irrigation system

ENCUESTA/PREGUNTAS	FACTOR	FRECUENCIA	PORCENTAJE
Tenencia de tierra	Propio	98	98
	Arrendado	0	0
	Al partir	2	2
TOTAL		100	100
Tipo de explotación cavícola	Tradicional	100	100
	Semi intensiva	0	0
	Intensiva	0	0
TOTAL		100	100
Persona encargada de la explotación cavícola	Esposo	0	0
	Esposa	99	99
	Hijos/as	1	0
	Familiares	0	0
	Empleados	0	0
TOTAL		100	100
Origen de la explotación cavícola	Herencia	82	82
	Compra	7	7
	Intercambio	11	11
	Donación	0	0
TOTAL		100	100
Pertenece a la Asociación cavícola	SI	0	0
	NO	100	100
Capacitación en producción cavícola	SI	63	63
	NO	37	37
TOTAL		100	100
Temas de capacitación en producción cavícola	Manejo nutricional	16	16
	Manejo sanitario	7	7
	Manejo genético	3	3
	Manejo Integral	37	37
	Ninguno	37	37
	TOTAL	100	100
Tipo de alimentación en la explotación cavícola	Forraje	92	92
	Mixto	8	8
	Balanceado	0	0
TOPTAL		100	100

**Table 3:** Forage cultivation surface

Módulos	Superficie total del terreno (m <sup>2</sup> )	Superficie de cultivo de forraje (m <sup>2</sup> )	% Terreno cultivado
Módulo 12-1	63801	25725	40%
Módulo 7-1	168175	47852	25%
Módulo 48-1	162113	62164	35%
Total	394089	135741	34%



destined for age cultivation, this being 38 % of its total extension.

According to (Table 4), from the investigated results allow us to establish that Module 12-1 ofits 25725 m<sup>2</sup> surface destined for age cultivation, 18% of it is used for cavicultural exploitation, being 11359 m<sup>2</sup>; while Module 7-1 ofits 47852 m<sup>2</sup> Surface destined for the cultivation of 38 forage, 13% of it is used for cavicultural exploitation, this being 22937 m<sup>2</sup> and Module 48-1 ofits 62164 m<sup>2</sup> Surface destined for foddercultivation, 16% of it is used for the cavico farming, this being 26006 m<sup>2</sup>.

Analyzed the data allows us to establish that the profitability in module 7.1 is \$ 0.85 foreach standing animal, in module 12.1 itwas \$ 0.73 foreach standing animal and \$ 0.46 / animal / foot. Establishing that module 7.1 obtain greater profitability.

**Table 4:** Forage farming area intended for cavic farming

Módulos	Superficie de cultivo de forraje m <sup>2</sup>	Superficie forraje destinado para la explotación cavicola	% Terreno destinado para la explotación cavicola
Módulo 12.1	25725	11359	18%
Módulo 7.1	47852	22937	13%
Módulo 48.1	62164	26006	16%
TOTAL	<b>135741</b>	<b>60194</b>	<b>15%</b>

**Table 5:** Profitability study of the modules 7.1; 12.1

Número	Módulo	Rentabilidad/dólares
1	<b>7.1</b>	<b>0.85</b>
2	<b>12.1</b>	<b>0.73</b>
3	<b>48.1</b>	<b>0.46</b>

## Conclusions

Guinea pig production in modules 7.1; 12,1 and 48 ofthe Ambato Huachi - Pelileo Irrigation System, has been practiced for more than 10 years, the whole process of raising, feeding and reproductive management is carried out in a traditional way, being a family activity, feeding is carried out mostly based off or age, the predominant guinea pigline is the inti, there are a total of 3,330 cavicultural units, 882 females, 152 males and 2,296 animals from effective meaning, ofwhich 1709 are destined for fattening and 587 as breeding or replacement feet, deworming is carried out 22% of users while 78% do not; Antibiotic treatments are

performed by 25% while 75% do not, there being a por health status in the three modules in respondents. With regard to marketing, 99% of the surveyed users use the animals from their cavicola production to the markets of the Ambato, Pelileo, Cevallos and Quero area (indirect channel), while 1% were able to indicate that they deliver it directly to a restaurant (direct channel), due to the geographical location, mobilization and anadequate place to market guinea pigs, makes families lose interest in the production of guinea pigson a largerscale, making this activity in some cases a hobby and not see it in a profitable job. Adding to this the lack of associativity of the users.

Regarding profitability through the case study, it allows us to establish that in module 7.1 itis 0.85 cents, while in module 12.1 itis 0.73 cents and in module 48 itis 0.46 cents foreach animal standing, realizing that their profitability would increase if they sold calffoot. Due to the low profit, users in the three modules lose interest in guinea pig production and therefore do not allows us stainable development of their economy by dedicating themselves to other activities.

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