



ECONOMIC ASSOCIATION OF AGRICULTURAL ECONOMISTS

65 ANNUAL MEETING OF THE
EUROPEAN FEDERATION OF ANIMAL
SCIENCES



Cost per kg of live pig, calculated from the Cost Efficiency and Competitiveness Information System (SICEC) of livestock activities in Mexico.

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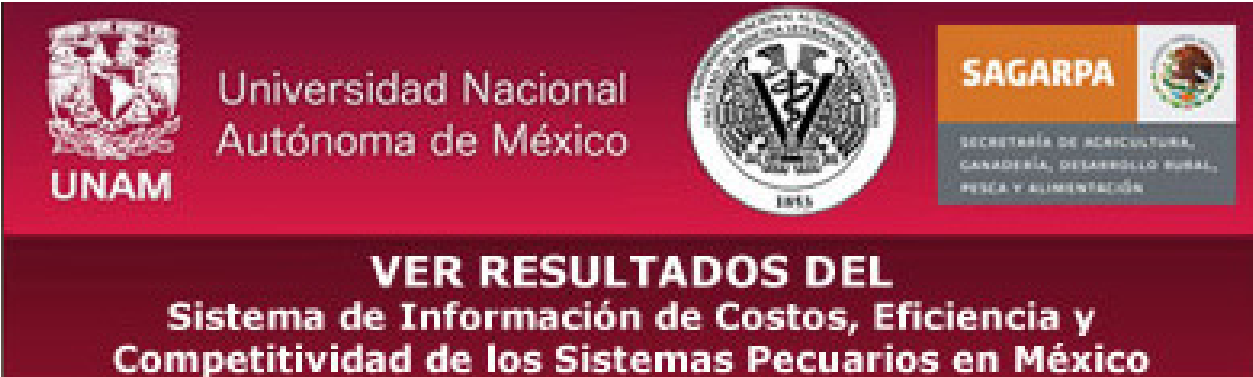
OBJECTIVES


- Present costs of pig production in different parts of Mexico and for all sizes of farms, which is actually a scarce information.
- Compare results obtained with the information of this new system, with those in the literature.
- Present to European scientists the new system as an alternative of information for livestock production in México.




Foreword

In order to have, a permanent, reliable and of easy access information on livestock sectors in Mexico, for interested parties, the Ministry of Agriculture sponsored the National University of Mexico (UNAM), to design and operate a new Information System (SICEC).




UNAM

Universidad Nacional
Autónoma de México



SAGARPA
SECRETARÍA DE AGRICULTURA,
GANADERÍA, DESARROLLO RURAL,
PECUA Y ALIMENTACIÓN

VER RESULTADOS DEL
Sistema de Información de Costos, Eficiencia y
Competitividad de los Sistemas Pecuarios en México

<http://www.sicec.unam.mx>

National livestock information System

- System includes:
 - 9 productions: Bovine (Milk, Meat and Dual purpose), pigs, Goats, Sheep, Poultry: (Broilers Layers) and Bees.
 - Economical Information: (costs, benefits, and profitability.
 - Información on strategic inputs.
 - Technical Información.
 - Información of the economical environment of each activity.

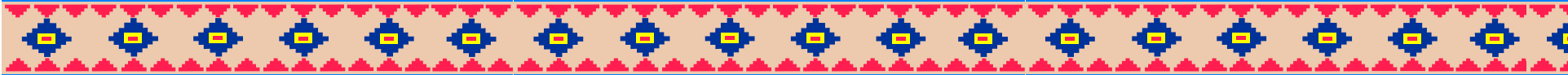
Information system of livestock production in Mexico

- Results are of public access in the web page: www.sicec.unam.mx
- It includes results of a first poll of 1222 interviews and 1584 from the second poll.

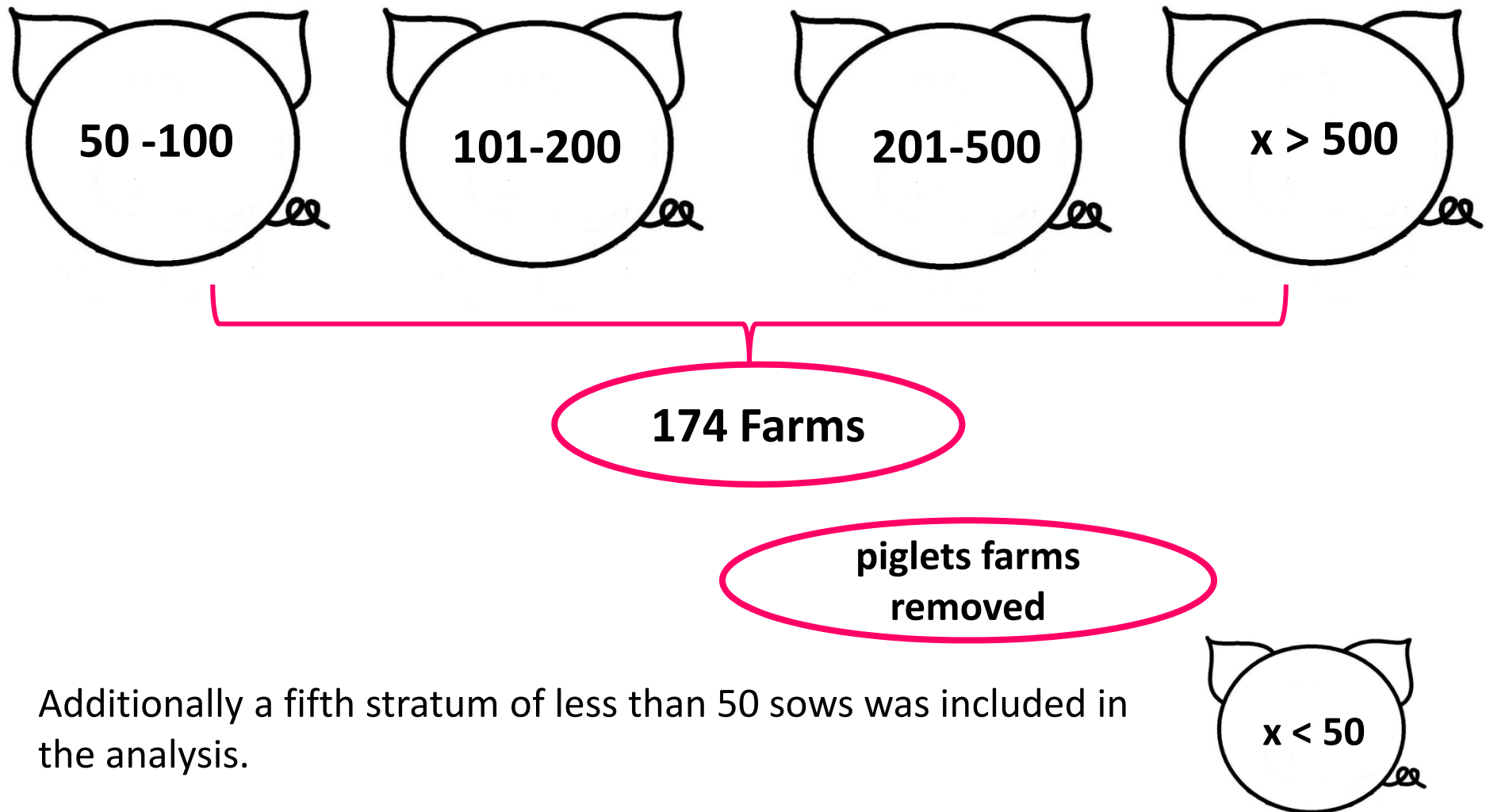


Materials and Methods

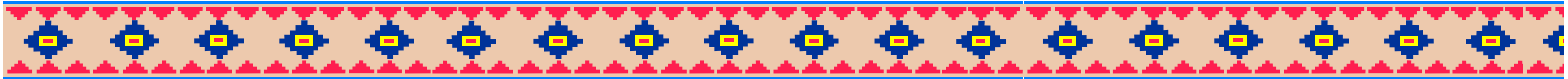
The information used for this research was obtained from a sample of 174 complete cycle farms located in 8 states of Mexico, interviewed during the 2012 SICEC pig poll, and were selected from the “Padrón Nacional Ganadero” (the largest cattle registry).



The selection was randomly made in each of the following four strata of Farrow to Market pig farm:



Additionally a fifth stratum of less than 50 sows was included in the analysis.



Finally, introducing information filters, **82** farms in the states of Jalisco, Guanajuato, Aguascalientes, Tlaxcala and Veracruz were analyzed.

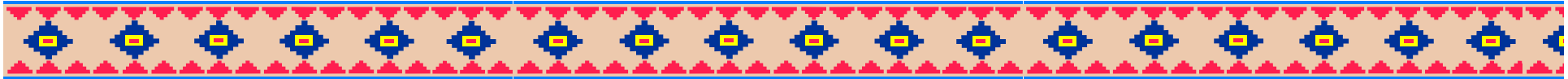
The cost of production per kg of live pig sold (C/kg) was calculated considering the costs of food, health, labor, equipment, facilities, services, reproduction and replacement.



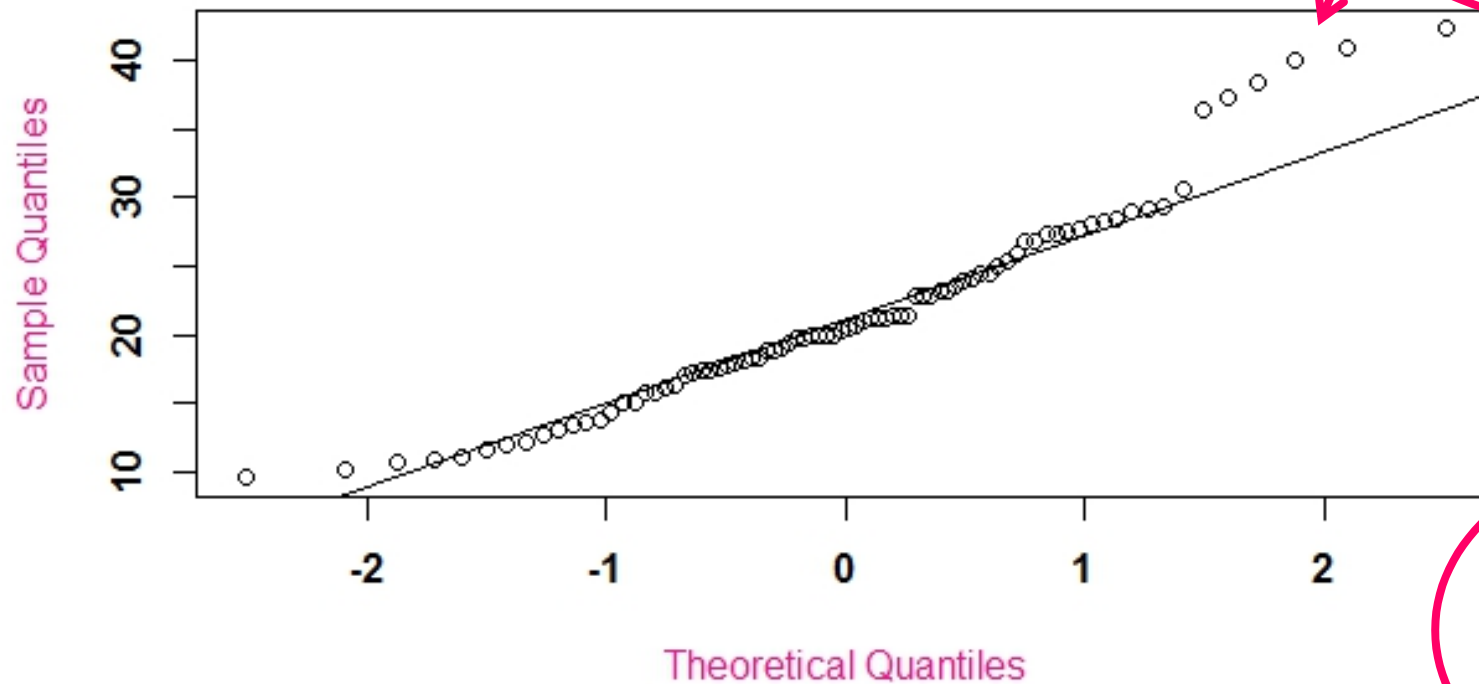
All the analyses were carried out by using R project



RESULTS



Normal Q-Q Plot



It would be very easy to remove these six values

Rather than to remove it, the error must be controlled

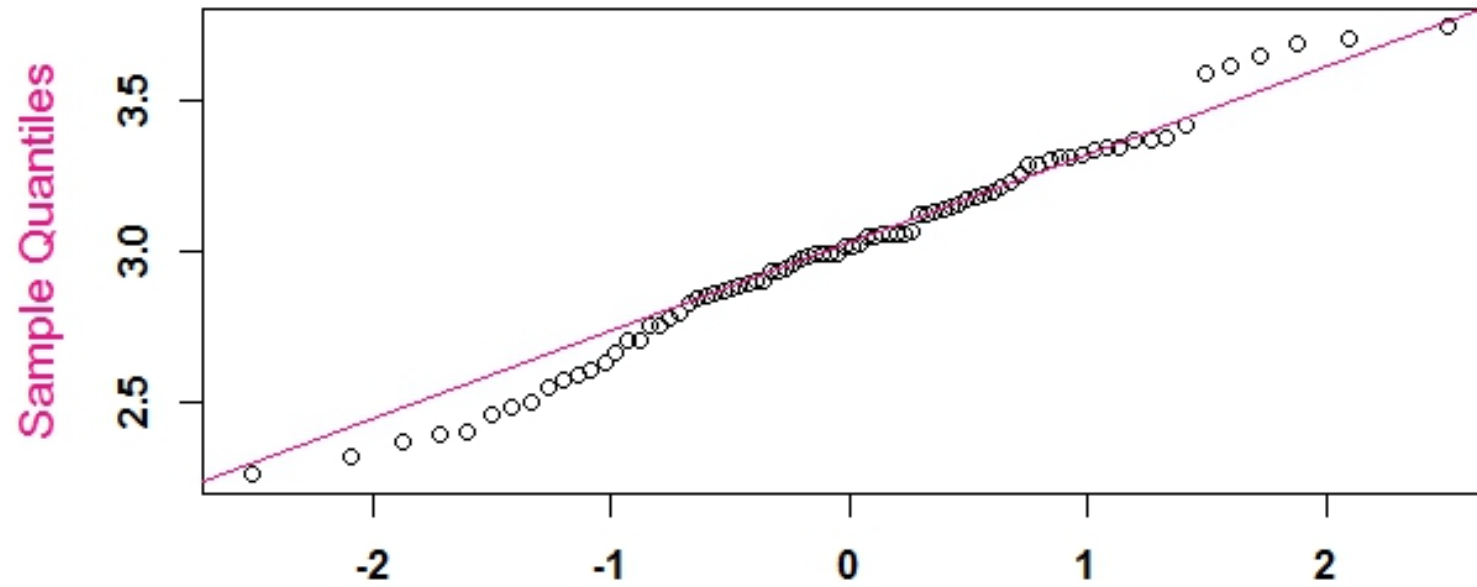
Shapiro-Wilk normality test
p-value = 0.002

$y[\log(y/y') - 1]$, where y' is the geometric mean of y

Results Box-Cox Transformation

$y[\log(y/y') - 1]$, where y' is the geometric mean of y

Normal Q-Q Plot



Theoretical Quantiles

Shapiro-Wilk normality test
p-value = 0.49



Stratum sows	N	Mean	Std Error	Mean Confidence Interval 95%	
				Lower	Upper
($x < 50$)	4	23.5	3.7	17.4	29.5
[50, 100]	30	22.2	1.3	19.4	24.9
[101, 200]	25	20.6	1.5	17.0	24.2
[201, 500]	18	21.2	1.7	18.2	24.3
($x > 500$)	5	21.1	3.3	15.9	26.3
Total	82	21.48	0.8	19.9	23.1

**Except for the 3^o
Stratum the cost
decreases with
farm size**

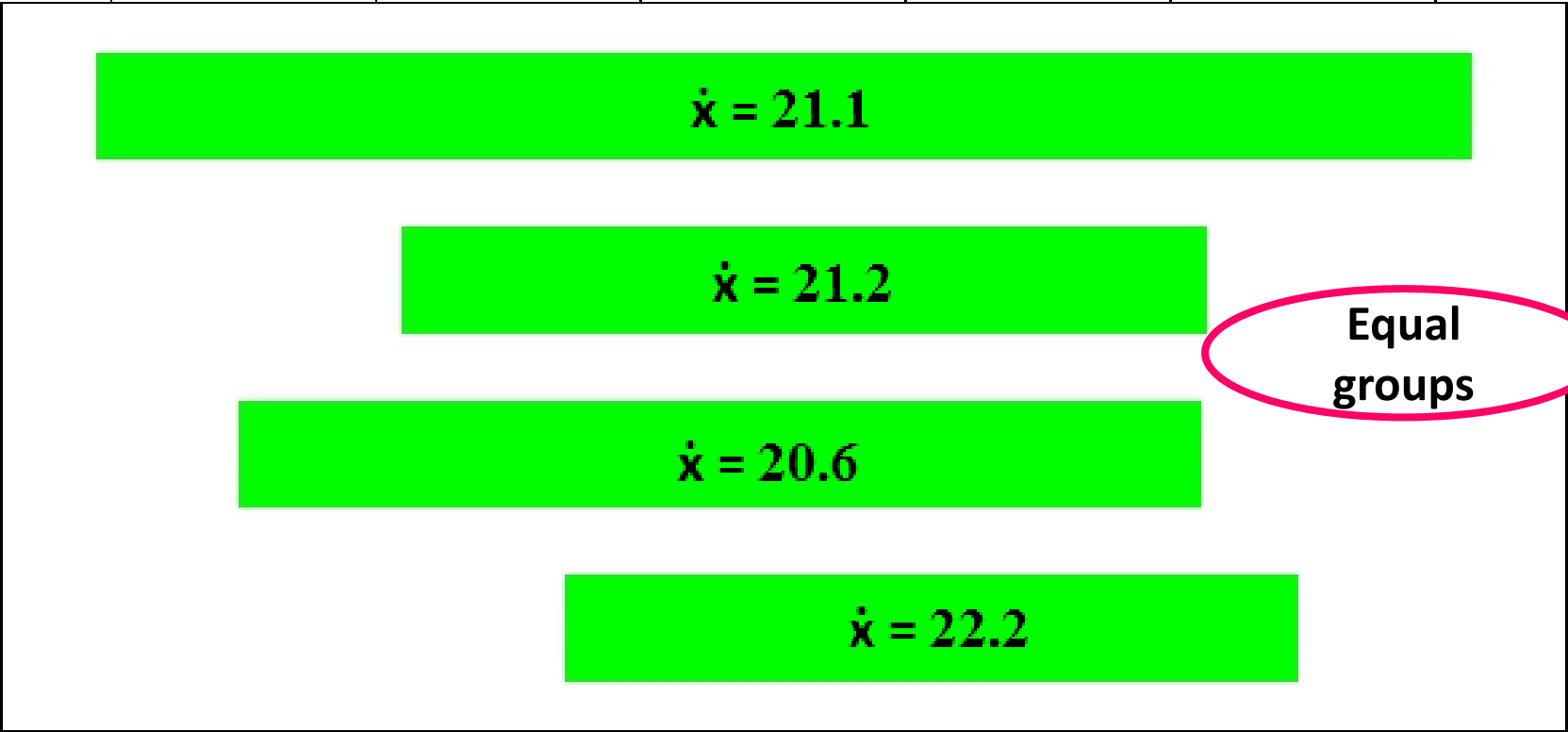
When comparing the means between stratum no significant difference was found .

Removing the first Stratum

$$\hat{x} = 21.37$$

Mean Confidence Interval 95%

- $x > 500$
- 201-500
- 101-200
- 50-100

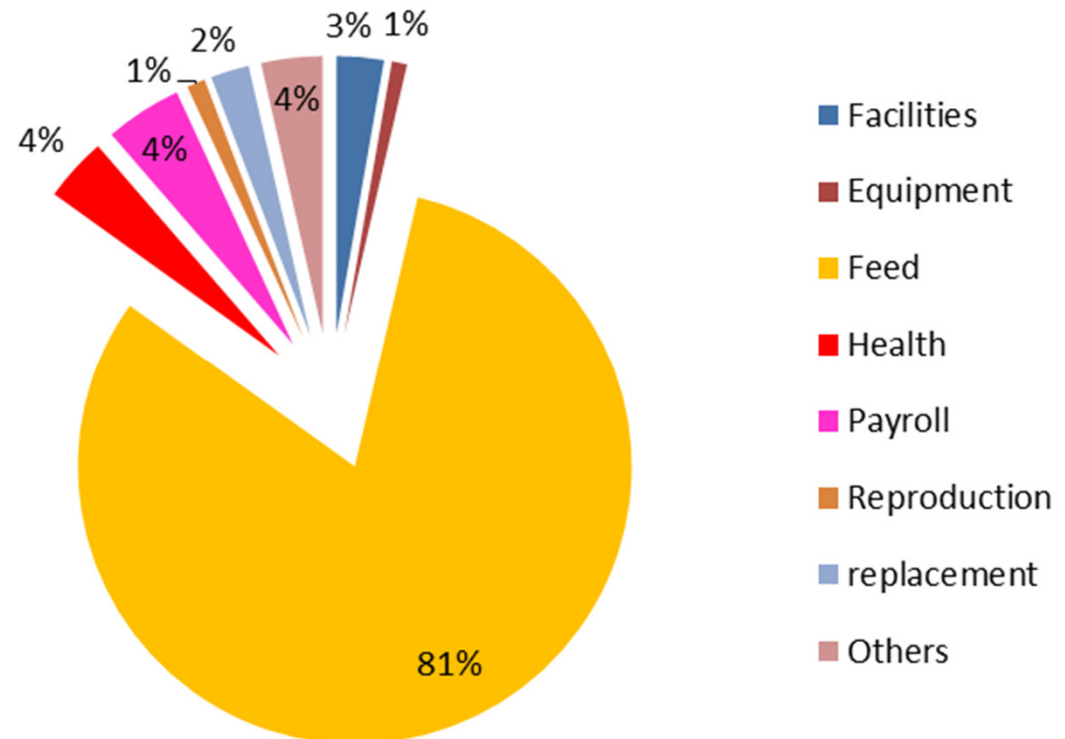


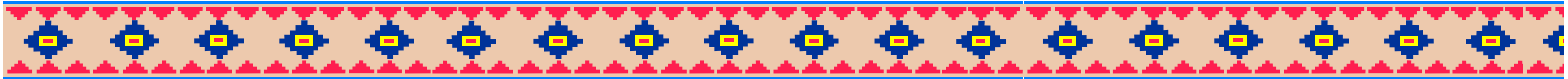
Equal groups

Cost per kg live pig sold

Participation of inputs in total production costs

Breaking down the C/kg, the feeding costs represents the highest percentage with 81.26%, followed by labor and health with 4.5% and 3.73% respectively.





Conclusions and Discussion

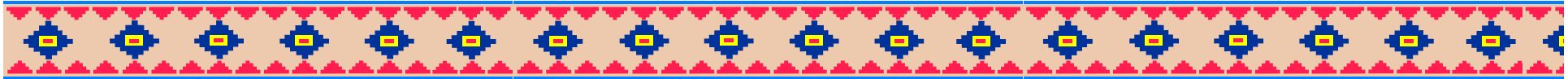
The cost reported in this research (\$20.9), is very similar to those reported by PIC (2) for farms in Latin America in 2012, and to those reported by FAO (3) of (\$20.3) for Mexico in 2011 (3).



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3



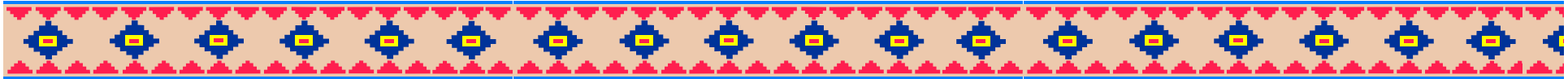
Conclusions and Discussion

The average C/kg of \$21.48 is \$1 peso greater than the average market price of live pig/kg in 2012 (4). This reflects the great challenges that had to face the Mexican pork industry in 2012.

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SERVICIO DE INFORMACIÓN
AGROALIMENTARIA Y PESQUERA



Conclusions and Discussion

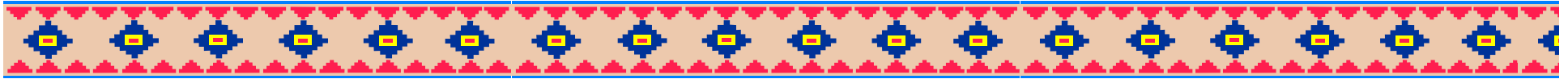
The fact that no significant difference in costs of production between stratum where found, points out the absence of scale economies⁽⁵⁾, although a trend to lower costs in favour of larger farms can be noticed, these should be further analysed in future researches.

Conclusions and Discussion

The results presented today confirm that SICEC, is a reliable information system that complements the few sources of economic and technical information existing in this sector of the Mexican economy. This short article includes both the cost of production per kg of live pig sold, and the participation of the main inputs in the total production costs.



**All information
in this survey
refers to low
technified
farms**



Conclusions and Discussion

In conclusion, SICEC is a system that provides reliable elements for decision-making at farm and public policy levels. Therefore it must continue and be strengthened to expand the sample sizes.

www.sicec.unam.mx

Thank you

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