Conocimiento y manejo de los abonos orgánicos por productores de caña de azúcar de el valle Grullo-Autlán, Jalisco

KNOWLEDGE AND MANAGEMENT OF ORGANIC FERTILIZER FOR SUGAR PRODUCERS OF THE VALLEY GRULLO-AUTLÁN, JALISCO

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RESUMEN

El uso continuo del fertilizante convencional ha propiciado que la economía del productor cada vez se encuentre más mermada por el alza continua de estos insumos, orillando al mismo a la búsqueda de nuevas alternativas, donde los fertilizantes orgánicos se muestran como una buena opción de mejora del suelo y con una visión más ecológica. Este trabajo surge de la iniciativa tanto de técnicos de la Confederación Nacional de la Propiedad Rural (CNPR), como de investigadores del Centro Universitario de la Costa Sur de la Universidad de Guadalajara y como parte de un programa de cooperación institucional para la búsqueda de un manejo agrícola más sustentable. El objetivo fue investigar el nivel de conocimiento y manejo de los abonos orgánicos por parte de los productores de caña de

azúcar de este valle, por lo que se aplicaron entrevistas escritas y verbales a productores de caña de azúcar de este lugar. Los resultados muestran como los productores tienen el conocimiento de lo que son los abonos orgánicos, pero que no los aplican por la falta de asesoría y temor a perder económicamente. Sin embargo la mayoría señalan que en más de una ocasión han aplicado algún tipo de estiércol, más por necesidad que por esperar resultados. Además reconocen de manera general las bondades de ellos y los ven como una buena alternativa para mitigar los costos del fertilizante convencional.

Palabras Clave: *fertilizante orgánico, productores, conocimiento, manejo*

Abstract

Continued use of conventional fertilizer has meant that the producer economy increasingly be further restrained by the continued rise of these inputs, bordering the same to the search for new alternatives, where organic fertilizers is a good option for improving the ground and a greener vision. This work stems from both technical initiative of the National Confederation of Rural Property (CNPR), and researchers of the University Center of the South Shore of the University of Guadalajara and as part of a program of institutional cooperation for finding a more sustainable agricultural management. The objective was to investigate the level of knowledge and use of organic fertilizers by sugarcane growers in this valley, so written and verbal sugarcane producers this place interviews were applied.

Key words: *organic fertilizer, producers, knowledge, management*

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Introduction

Organic fertilizers are those residues of animal and plant origin that plants can obtain significant amounts of nutrients; the floor, the breakdown of these fertilizers, is enriched with organic carbon and improve their physical, chemical and biological (SAGARPA, s / a). About the application of organic fertilizers has been one of the alternatives in recent

decades have had a marked rise. However, he has so much been the application of technology to the generation of inorganic fertilizers, the farmer has kept the job of developing a natural compost, coupled with the management of chemicals facilitates their work and increases yields, but ultimately pollutes soil, plants and water table mantles (Carrillo, 2003).

Moreover the growing need of the Mexican countryside to the use of fertilizers, high costs and quality of these restricted soils, coupled with the climate factor (loss of seasonality in rainfall), has resulted in the search for alternatives to mitigate these problems but also provides security regarding the collection and quality of the produce grown. It is undeniable that the use of organic fertilizers could be a good alternative for improving soil or land of the Mexican countryside, and going further to the health of conventional fertilizer applicators ("chemical" for most producers) but it is also clear that this practice is still not very well accepted by some Mexican producers in initially only seek higher yields and short-term production at the expense of their own health and the environment.

Do not forget the famous green revolution carried out in the world between the 60s and 90s of last century, this was characterized by the rise in agricultural productivity worldwide, but especially in developing countries like Mexico, achieving increasing yield of crops, particularly cereals such as maize, wheat and rice, that supported largely by the application of chemical fertilizers, also called minerals, mainly consisting of nitrogen (ammonium sulfate, ammonium nitrate, urea) and phosphorus (single or triple superphosphate), and other chemicals called pesticides (herbicides, insecticides, fungicides) (Caballero-Mellado, 2009).

In addition and together with the factors mentioned above, is the economic factor, which arises as a problem when the inputs to the production of crops up every year and make mineral fertilizers non-recoverable investment in the production process, leaving such production subsistence purposes only. Fortunately the practice of organic fertilizers gradually gaining ground in the awareness and management of producers and researchers in the world, since the land with these practices are growing day by day.

It notes that at present, it is estimated that about 32.2 million hectares worldwide are certified according to organic standards. Although the highest growth in this type of agriculture have been reported from Africa and Latin America during recent years; Oceania remains the region with the most organic area, accounting for 37 percent of the world total (Claridades, September 2009). Meanwhile Mexico ranks fifth in Latin America in the production of organic, offering a variety of products ranging from fruits and vegetables to coffee (Mexico ranks as the leading producer of organic aromatic in the world), coupled to close 90 percent of these products are exported, generating an income to Mexico of about $ 70 million.

Solis (2008), quoted by Perez (2009) mentions that in production of organic origin, this has increased significantly in recent years, in response to growing demand for organic products and that the socio-economic importance lies that is linked to the poorest rural areas, where 98.5% of all organic producers are small producers with two hectares of crops on average, and usually grouped into sectors peasant organizations.

This sector grows 84 percent of the organic area in Mexico and generates 69 percent of currencies. Currently in our country a "cluster" as the marketing of organic products is presented as small businesses that are engaged in this activity created markets offering organic and natural products in Mexico, which have a close relationship through the Mexican Network of Organic Markets and (Pérez, 2009).

Also given the current situation of high prices offered by the market in terms of conventional fertilizers and openness that is being given to organic fertilizers and where the generation of these provides some say, less costs and benefits, as This study, which emerged as a concern by the technicians of the National Confederation of Rural Property (CNPR) in knowledge and use that will be given to organic fertilizers by farmers is generated as an alternative in improving the soils of this valley. So the main objective was to know what is the perception of the use and management of manure producers having such sugarcane Valley Cranbrook-Autlan on the southern coast of Jalisco and an important part search for sustainable agricultural management in this region, coupled with the environmental policies that seek these institutions such as the CNPR and the University of Guadalajara.

DEVELOPING

With regard to this region and particularly the valley of Autlán-El Grullo, a series of activities with the generation and application of organic fertilizers, where small-scale production is evident in some ranches they are presented. Besides development of small industries producing organic fertilizers has generated this production, where words of one of the researchers of the company "Eco technology Chante" (small village in the municipality of Autlan de Navarro, Jalisco) with respect to the marketing and use of organic fertilizers, said:

> "Consumption is and has been on a steady increase, and slowness is perhaps due more to ignorance of the benefits of these fertilizers, where the nutritional wealth is above conventional fertilizers and the lack of dissemination of the same, and which competes with major producers of inorganic fertilizers "(Lezabel, comp. comm., 2010)"[1]

Based on the field trips for this study, it was observed that the processes of development or production of fertilizers and organic fertilizers is given in two aspects, one from the point of manually view or perhaps because they say craft and the other from the industrial point of view, where technology is present in its development and where transnational companies have begun to compete with small food processing companies this floor.

In interviews with both verbal Lezabel researcher and Mr. Trinidad employee Ranch "Las Palmas" they said in an almost coincidental, that organic fertilizers have not prepared much difference with those prepared in other such micro base their preparation and presentation of two types of products, solid and liquid or leachate. The first is obtained by mixing soil and other series of products, which may well be animal manure (cow, sheep, pig, chicken, mostly) or organic waste harvest fruit or vegetables and where earthworm activity It is essential for the enrichment of this credit, hence it was called vermicompost. While the

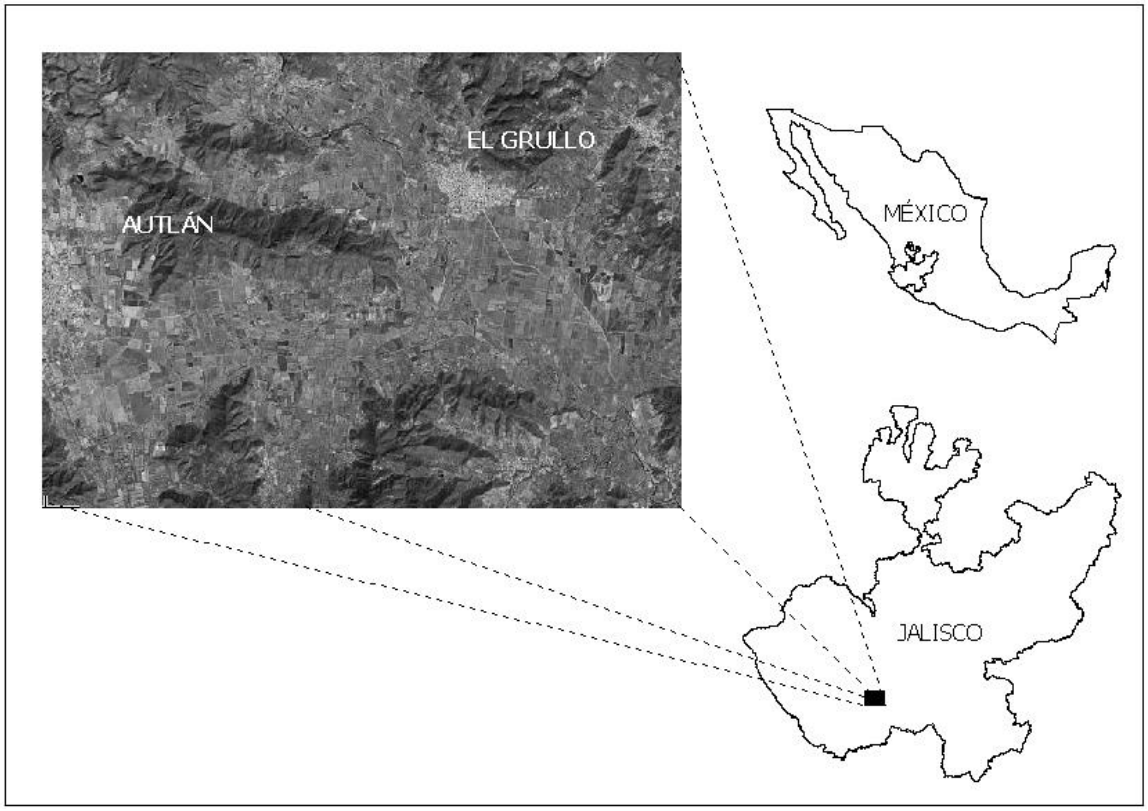
[1] Técnico-Investigadora. Empresa "Ecotecnología El Chante" (Localidad de Autlán de Navarro), Jalisco

liquid or "leachate" is derived from liquid wastes such as urine expelled animals and which when mixed with the same dung them further enriches the same.

Also the development of inputs from the industrial point of view, based preparation in the application of technology and are known as biofertilizers, where as an example what market these organic inputs indicate that these speed the response to nutritional needs culture, used from natural amino acids, chelates, biostimulators, to extractive mainly plant hormones (Josar, comp. comm. 2010). In this regard arises a series of questions which will aim to respond to knowledge, marketing and use of the organic fertilizer in this region and where the details of both verbal and written interviews and statistical analysis gave support the information generated.

With regard to sampling, it was done in 2010 as it pertains to the valley of Autlán-El Grullo which is located between the coordinates 19 ° 35 'to 19 ° 54 N and 104 ° 07' to 104 ° 29 'W (INEGI, 2000) (Figure 1), and points of demarcation were taken from the producers of sugarcane of the National Confederation of Rural Property (CNPR), which features a roster of union members 800 in a cane cultivation area of 4500 ha, where about 42 ejidatarios (5%) will benefit from the manure they generate seven ranches, those using animal waste (cow dung and sheep mainly) and harvesting are are enriched with their land and conservation agriculture activities or application of these (credits) organic waste, further promote them (Brambila, 2010)2.

[2] Com. Pers. Técnico de la Confederación Nacional de la Propiedad Rural (CNPR). Autlán de Navarro, Jalisco.



Gráfica 1. Ubicación de El valle de El Grullo-Autlán

Primarily a verbal survey was conducted by the owners of ranches that were generating first and perhaps using organic fertilizer in their fields (background) interviews. In addition surveys (7 key questions considered) to producers of sugar cane census of union members belonging to this partnership in order to identify their impressions in knowledge, marketing and use of organic fertilizers were made.

The calculation of sample size (No. of interviews), was performed using the formula of finite samples (Santos et al., 2003), given that the universe was known to be surveyed (800):

$$n = Z_{\alpha}^{2} \frac{N \cdot p \cdot q}{i^{2}(N-1) + Z_{\alpha}^{2} \cdot p \cdot q}$$

Where:

n = Sample size

N = Population size (potential interviewees)

Z = Value corresponding to the distribution Gaus 1,96 para a =0,05 y 2,58 para a =0,01

p = Expected prevalence of the parameter to evaluate.

q = 1-p (Si p=30%, q=70%)

i = Error committing expected. For example, for an error of 10%, we will introduce in the formula the value 0.1. Thus, with an error of 10%, if the parameter is estimated 80%, we would have a 95% confidence (a = 0.05) that the actual parameter is between 70% and 90%. We see, therefore, that the total width of the interval is twice the error introduced in the formula

Resulting in a total of 132 interviews with a margin of 90% confidence. The respondents' answers were analyzed in Statistical Package for Social Science (SPSS) version 15.0 program, and together with verbal interviews and statistical analysis allowed to determine the relationship with respect to the answers provided.

In the statistical part and in the first instance the frequency for the 7 parameters or survey questions was used, these were taken in April from which to consider was that they responded to the objectives and in order to detect the recurrence of the same (Malhotra, 2008).

A contingency table (crosstabs) (Murray, Stephens, 2007) was also applied, in order to observe the crosscutting between the variables "knowledge of organic fertilizers" vs. "Application of organic fertilizers" and the perception of which was the most economical vs use of organic fertilizer, this with the idea of rescuing that relationship existed between the level of knowledge, with the level of implementation, or was so convinced the producer to apply in the future organic fertilizers.

The information was systematized and orderly and then apply the statistical analysis of the responses provided by the producers, considering 4 of the 7 parameters or questions raised, together with verbal interviews.

RESULTS

Knowledge of organic fertilizers

The result in terms of this parameter shows how farmers mostly aware of what they are organic fertilizers, while in smaller proportion said they ignored or has some idea of what they (Table 1)

	Frec.	%	% válido	% acum.
Sí	103	**78.0**	78.0	78.0
No	8	6.1	6.1	84.1
Más o menos	21	**15.9**	15.9	100.0
Total	132	100.0	100.0	

Tabla 1. Tabla de frecuencia en cuanto a *conocimiento de abonos orgánicos*

The table above shows how 103 producers (78%) said they know what they are organic fertilizers, but if we add to this that almost 21 (15.9%) of the rest have no idea what they are, then we can say that 124 (94 %) of the 132 respondents know this soil improver and only 8 (6.1%) ignore what they are. Moreover the following question added to the previous faith gives us even more the degree of knowledge that the producer of this valley as to what are the organic fertilizers and especially how these can be generated (Table 2).

	Frec.	%	% válido	% acum.
Humus	35	26.5	26.5	26.5
Estiércol	47	**35.6**	35.6	62.1
Materia orgánica	6	4.5	4.5	
Otros	38	28.8	28.8	66.7
No contestó	6	4.5	4.5	95.5
Total	132	100	100	100

Table 2. Frequency table or "fashion" in knowledge of organic fertilizers

Table 2 can be seen as about a third of respondents (35.6%) pointed to organic fertilizers as those from all types of manure (cattle, and pigs mainly). But also the producer is familiar with technical terms such as "humus", linking this with the waste of their harvest or commonly called "stubble" this other concepts related to the feel of them is added, calling it "enhancer soil "," is good for the soil "," helps the soil "among other items.

In this regard mention may be made of the experience of Ing. Peredo, cane belonging to the CNPR and who based it on conservation tillage reflected in the green harvesting, that is, the cane is not burned in the plot for later transfer to grinding. This activity has been held for 8 years and reaping with this methodology for 6 years and is the incorporation of the residue of the wastes in the cane without burning through a step tow.

This dynamic has been reflected in soils interviewed enrichment of their lands and producing a strong and good quality cane, although production has not changed much in terms of ton / ha, as they say in the ...

"Is a little less, but eventually the soils are being depleted, as the chemical the tires to extract nutrients and leave nothing on the ground, well I do with the desire to produce, not to make money (?) "

These actions have allowed the soils of the interviewed have increased their quality and the same quality of cane in his words, but does not have the data on how much was this increase in quality, since they started with conservation tillage makes about 6 who it was

when soil tests performed with organic matter values less than 1 (0.7%), so that after this time conduct further analysis to see which has the gain of nutrients of these soils.

Moreover producers are presented, which shows confidence and enthusiasm in the knowledge and especially with use of organic fertilizers, will reflect the experience of Mr. Guillermo Gonzalez, owner of Rancho "Providence" in the town of in the municipality of Lagunillas autlán, who notes that his property has been handling 80, which is cultivated mainly sugar cane and corn on a smaller scale and cucurbits (cucumber).

The interview is one of the people convinced of this valley as far as the application of organic fertilizers, as it has about 6 years using the same. Even at the cost of the costs generated, the producer expresses its full use and application of organic fertilizers confidence and says:

"I wish everyone would realize the benefits of these".

The excitement began with two professors from the University of Guadalajara who brought them a group of students for several days mixing remains of their harvest with cow manure prior permission from him and once finished the thought that it would be taken , so it's said, but both teachers and students requested permission to apply it in any area of your plot, so he gave them a "bank" of it. In his comments, "where the soil was poorer," but what was his surprise, that was where the best and robust rods were given their land, so from there began to perform the same activity had Indeed both students and teachers, why and to date is still carried out.

But this series of prints in the knowledge of organic fertilizers in the background coincide with the responses of those interviews were applied, as some respondents the same, said:

"It is the field salty solution and recovery problems. They would mix manure beef, lamb (not) with stubble cane, honey and yeast (21)3;

[3] No. Del entrevistado de acuerdo a la sistematización de la base de datos

"Of great importance by reason of being effective and less aggressive organic matter that counts the earth" (24);

"They do not pollute, elements that are the same here as composting plants, litter, manure prey" (39);

"It's a good alternative to sustainable development and not rely on transnational" (61); "Present and future of agriculture" (65).

So how are you people, there are others who would be willing to use organic fertilizers, and they know what they are these, but they do not know as manifested too, it is how and where to get them, or who could produce on a large scale, but Also there are people who are not willing to use you because they say "time and money is wasted," as well that "do not know if will work, time not to lose money," say others. In this regard the following answers to the written interviews show that concern:

"They're good but not soon take effect" (48);

"It's better but more information is needed for farmers" (58).

As for the application, the next question shows the extent of use by the manufacturers of this valley.

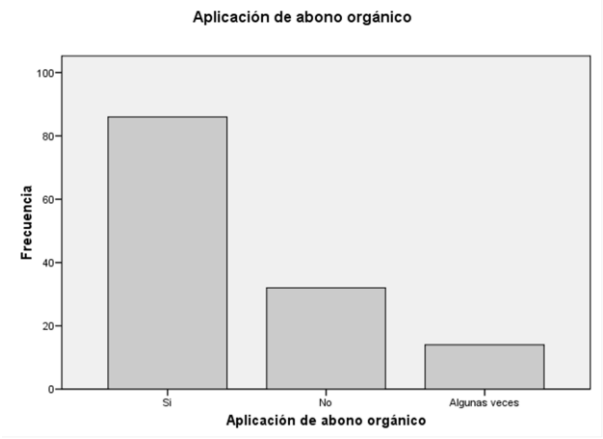
Application (use) of organic fertilizers

This parameter also showed wide results regarding the utilization of organic fertilizers, as most of the respondents and it showed. The following table (3) indicates the degree of application of organic fertilizer to be had.

	Frec.	%	% válido	% acum.
Sí	86	**65.2**	65.2	65.2
No	32	24.2	24.2	89.4
Algunas veces	14	10.6	10.6	100.0
Total	132	100	100	

Tabla 3. Tabla de frecuencia en cuanto a *aplicación de abonos orgánicos*

The above table shows how cane growers have been applied mostly organic fertilizers (65%), if we add to whoever has made small-scale or empirical ancestral then the figure rises to almost 76% reflecting that these producers seek alternatives to their soil enrichment, trying to reduce inputs in their fields. It should make the comment that about one-fifth did not use compost, one that does not have the resources or just not interested at the moment to use it, or who have not seen the results in the application of these fertilizers. The following graph (2) presents the dynamics of this parameter:



Gráfica 2. Aplicación de abono orgánico

The graph shows how a greater or lesser intensity most cane producers applied to their plots some sort of organic fertilizer. As for those who do not use organic fertilizer it is given by different situations, but this negativity to its use is not very strong, because some are willing to use, but consider some situations that inhibits them, so they stated in interviews written aplicadas. Some of them said:

We use conventional fertilizers because until now we really have no experience organic products in our region that we ensure the reliability of these (23);

"The chemical is fast is slow and organic, look for alternatives (25, 32)";

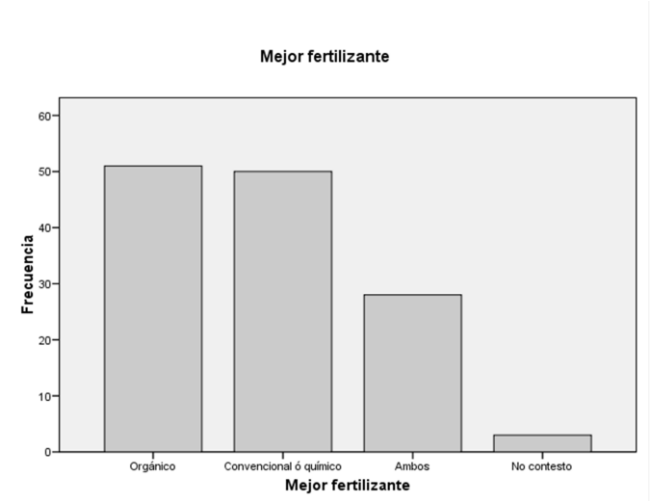
"The chemistry is good but harm the land and are short-term (month, month and a half) (34)

It is important to stress again that the use will be primarily subject to the lack of experience in the application of these fertilizers, since the Mexican peasant precisely forged their knowledge based on experience and through trial and error, but this situation it has pushed not to risk economic resources in favor of a supposed improvement of soils, so just living the experience will give you a satisfactory answer for.

Still, the next parameter shows on their perception and little experience, or why not say, by hearing from him as to what he hears what the others mentioned, regarding which is best fertilizer for the land, organic or inorganic or conventional.

Best Fertilizer (preference)

The results showed that the producers indicate that the two types of fertilizers are equally good for improving soil, it added that within the choice of both, the response was too large. About the division of opinion as to the best fertilizer was marked, because while 51 respondents (38.6%), said the best fertilizer as organic, 50 (37.9%), it was with the conventional. To this parity that would add both are good. The following graph (3), you can see even better the similarity of views on these two types of fertilizers.



Gráfica 3. Mejor fertilizante

Note as conventional or organic and inorganic fertilizer are in divided opinions, coupled with the perception that both are good, some long-term such as organic and other short-term. This was confirmed by some of the producers who responded to the survey:

"The chemical is easier to apply" (28);

"Both are good but we have infrastructure to process organic fertilizers and chemicals are easy to apply and get more easily" (40);

"The organic because they can have the same production yields having increased productivity because it is much more economical than chemical input. In addition it does not pollute the soil whether this practice (89) is encouraged.

In this struggle of which is better fertilizer according to the opinions raised, it can be said that both are useful for the soil and thus to plant fertilizers, while you provide an immediate response on your (conventional or chemical) application, another makes more slowly according to activity in the soil biota. In this regard it may recommend that the two are very important and complement each other in a soil improvement.

In this regard Felix-Herran, et al (2007), points out some points to consider in the use of organic fertilizers over conventional or chemical:

1) They are slow-acting, as the floor adapts to certain management and withdraw 100% of the compounds that was used that land, it can not be very helpful, so a (conventional and organic combined system is recommended) in an effort to make a gradual change, and help the soil to restore the natural balance and

2) The results are expected in the long term, as it was said in the previous paragraph, the change must be gradual, and gradually the ground restore the processes of formation and degradation of organic matter up to a level where only require a minimum amount of nutrients to keep such activity, however during this process will improve soil fertility, observed a higher percentage of germination, seedling better adaptation to transplanting the same, among others. The transition period to be organic soil ranges from 3-5 years depending on the previous land management and environmental factors, can be extended to 8 years.

The conclusions reached by the previous author allow to deduce equality with the thinking of cane growers in this valley, so it comes up again the experience of the producer in the management of their land. But you can mention about the business side of organic fertilizers ?, where producers basically that first indicate their printing costs and possible costs of these, along with what is handled in an emerging market in this valley.

Cost perception of organic fertilizers (price)

As for the perception of the cost of organic fertilizers as compared with conventional or chemical producer prices show some uncertainty in view of the limited market that has such a large scale, coupled with his limited experience in its use and application. Statistical analysis of the surveys showed how the farmer indicates mostly that organic fertilizer is the most economical, but also mentions that a large percentage do not know. Perhaps the perception arises from the time conventional inorganic fertilizers or climb year after year, that in his words, but also the degree of ignorance arises from the moment the little or no use. The following table (4), reflects the feelings of the producer as to which considered more economical:

	Frec.	**%**	**% válido**	**% acum.**
Orgánico	79	**59.8**	59-8	59-8
Convencional o químico	7	5.3	5.3	65.2
No sabe	46	34.8	34.8	100
Total	132	100.0	100.0	

Table 4. Frequency table in perception of costs (What is the most economical)

The table can be seen as most of the respondents (59.8%) he noted that the compost was the most economical, yet this thinking is not coincident with almost 35% of respondents who say they do not know . It is believed that these responses are influenced as mentioned above in terms of year-on-year increase of fertilizer prices and a likely shortage of ingredients (minerals) of these.

In this regard in a report by technicians CNPR (2009), it stated as production costs can decrease between traditional management and sustainable when the tiller the crop residues are added to the soil as enhancer thereof. Table (5) shows these data:

MANEJO TRADICIONAL /Ha	
Gastos (Cultivo, cosecha e indirectos)	$ 28,000.00
Ingresos (caña cosechada)	$ 47,000.00
Utilidad	$ 19,000.00
MANEJO SUSTENTABLE / Ha	
Gastos (Labores de conservación)	$ 22,000.00
Ingresos (Caña cosechada)	$ 45,000.00
(Residuos de cosecha)	$ 3,000.00
Utilidad	$ 26,000.00

Table 5. Comparison of costs by type of production (CNPR, 2009)

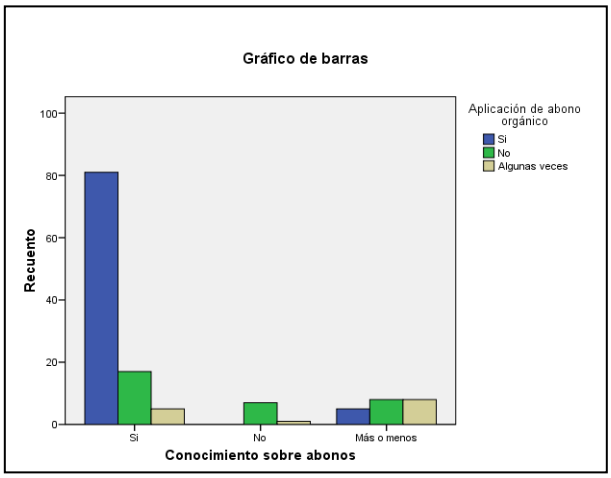
Notice in the table as expenses exceed the traditional management in relation to sustainable agriculture where the incorporation of crop residues allow a better development of the soil and the usefulness rises more in organic farming than traditional. In this regard Felix-Herran, et al (2007) says that you should be aware that costs increase soil management to do organically, but equally notes that plants and fruits have better quality, resulting this in more revenue and lower cost of soil management in the future. This is that the results will not be immediate, coupled with soil conservation and its nutrient enrichment and otherwise protecting the environment by reducing pesticides and herbicides, without polluting the water and environment, which will improve soil fertility .

Based on the above, this analysis revealed that knowledge and the best fertilizer for cane growers Valley Cranbrook-Autlan mainly rely on observing and socializing with other producers as well as ancestral experiences. Also the application of manure also depends on that knowledge, but mostly short-term answers, but most would be prepared to always use it and when they advise well to avoid financial losses, coupled with that would be a very good solution to reduce the costs of conventional or chemical fertilizer.

Knowledge of organic fertilizers V.S. Application of organic fertilizers

As for the implementation of contingency tables they were performed under these two relationships: a) Knowledge of organic fertilizers vs Application of organic fertilizers b) Use of organic fertilizers vs perception of better fertilizer.

This information helped to confirm crossing located in the fashion test or frequency, as this analysis showed that the application of organic fertilizers effectively presents great value in knowledge of them. That is, a greater knowledge of the producer encouraged to apply more. The following chart (4) shows the information:



Gráfica 4. Conocimiento sobre abonos orgánicos vs. Aplicación de abonos orgánicos

In Figure 4 can be seen as the ratio of accepting the application of organic fertilizer in the knowledge they have is very wide, which is also manifested in the application of the test frequency where recurrences of acceptance of this practice They are very obvious. Added to this can be seen as the crossing of the "Yes" presented a high ratio, that is, to a greater knowledge of organic fertilizer, increased use and application of this. This knowledge also allows the sugar cane producer reasoning the benefits that could have these for their land, they expressed some respondents:

"Of great importance by reason of being effective and less aggressive organic matter that counts the earth" (24). ;

"No polluting elements here are the same as composting plants, litter, manure prey" (39) ..

Use of organic fertilizers vs. Perceptions best fertilizer

The relationship of these two variables based his results in similar situations of perception, because if the producer will check that is good, use it, the balance of opinion was very marked. However a good number of respondents said they use both, one for which the

conventional or chemical will "respond quickly" and the other longer deals. Table (6) shows this behavior:

		Percepción de mejor fertilizante			
		Sí	No	Algunas veces	Total
Uso de abonos Orgánicos	Sí	**81**	17	5	103
	No	0	7	1	8
	Más o menos	5	8	8	21
	Total	86	32	14	132

Crosstabulation Table 6. Use of organic fertilizers vs better perception of fertilizer

Table 6 can be seen as the highest ratio was taken with the positive responses, that is, if the producer has the knowledge of organic fertilizers, perhaps the implement, with all that entails this, since the economic part, to the existence thereof. This concern is reflected uncertainty in some of the opinions expressed by producers of this valley and say:

"I am not aware but we see other benefits of using organic and not just economic point" (22);

"We are not aware of how much it costs the production and application of organic, failure to apply information and culture" (40);

"Very expensive conventional, organic is given only to pick it up and haul it cost" (76).

The opinion of the producers is varied, however concern of using organic fertilizers is latent, coupled to think it could be a good alternative in the pursuit of lower costs in its plot, but again falls into the same, a lack Knowledge and advise people who do this in a productive activity.

This series of opinions reflected as cane producer prefers the option of using organic fertilizers, but then fears stop using conventional or chemical, because with recent results has been found, which has not to compost, but has concerns use. The following review of the producers reflect this situation:

"I am not aware but we see other benefits of using organic and not just economic point"

(22);

"We are not aware of how much it costs the production and application of organic, failure to apply information and culture" (40);

"They are more economical and less organic pollutants (85).

Thus, this work collects a range of information intended to reflect the feelings of the producers of this valley in the use of organic fertilizers, in order to implement actions and advice that will lead to a management and reduce costs in its plot .

CONCLUSIONS

This study reflects the producer of this valley know and have knowledge of what they are organic fertilizers, but they do not realize it because of lack of counseling and economically in fear of losing their investment. Moreover most producers indicate that apply or have applied organic fertilizers on more than one occasion, more by necessity than by waiting for results, coupled with what they are chatting about this, growers who are regularly performed.

In that regard which could be the best, they point out that organic, because it improves their land, does not pollute and it can only collect from their stables, coupled with that is greener in his words. Economically they say that organic is best, perhaps more bordered by the high costs every year have to pay for the conventional fertilizer or "chemical" or that have the leverage future perception of manure from their stables or harvest residues.

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