

Perception about the 5S program: case study in a Mato-grossense rural property

  10.56238/tfidwv1-065

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ABSTRACT

Agribusiness belongs to the representative sectors of the Brazilian economy and rural properties are part of it and its activities require management to make better use of its resources. Although they adopt modern production technologies, the way they manage their business needs to improve. Among the alternatives to improve the management/ organization of this environment, the 5S program can be adopted, which, although simple to apply, brings benefits. The five senses are: use, organization, cleanliness, standardization and discipline. As a way to contextualize the use of the 5S program, a case study was carried out on a rural property in Mato Grosso that has adopted 5S since 2012 and presents its perception.

Based on documents and through a questionnaire directed at all levels of rural property, the data collected revealed that, similar to the urban context, in rural properties the program is apt to be adopted and provides improvements. With this, the study contributes to encourage rural managers regarding the implementation of this program and thus collaborate with the management, which needs improvement in the rural area. Based on documents and through a questionnaire directed at all levels of rural property, the data collected revealed that, similar to the urban context, in rural properties the program is apt to be adopted and provides improvements. Thus, the study contributes to encourage rural managers regarding the implementation of this program and thus collaborate with management, which needs to improve in the rural environment.

Keywords: 5S Program, Implantation, Perception, Rural property.

1 INTRODUCTION

Brazil consolidates itself as one of the largest food suppliers in the world and thus sustains the representation of agribusiness for the Brazilian economy. According to data from the Ministry of Agriculture, Livestock and Supply (MAPA) in December 2019, Brazilian agribusiness exports totaled US\$ 7.73 billion, generating a surplus of US\$ 6.52 billion. In the same period, agribusiness accounted for 42.6% of the country's total exports, generating US\$ 18.16 billion (MAPA 2019).

The state highlighted in agricultural production is Mato Grosso, known as the country's barn because it is a champion in the production of soybeans, corn, cotton and cattle herd. According to the Mato Grosso Institute of Agricultural Economics (IMEA, 2018), agribusiness represents 50.5% of the state's GDP, having record levels in the 2017/2018 harvests.

Because it is an influential segment for the national economy, farmers seek to improve themselves more and more, both in production and management so that they can continue to crescendo in an organized way. However, there are rural properties that do not give due attention to management (TALIARINI; RAMOS, 2015).

In order to maintain the continuity of this growth, rural properties face the challenge of implementing management models that meet new productive and socio-environmental demands (KING et al., 2010). Although technological advances have arrived within the gate and even moving millions of reais every year, many rural properties do not even plan or are meeting goals (TALIARINI; RAMOS,

2015). To Vilckas and Nantes (2006). Rural enterprises that have their activities planned get better results in the management of their business.

The concern of rural companies with quality management allows a differential, when applied efficiently in production processes. Thus, it is possible to improve production systems, consolidating higher quality in finished products so that they can achieve the satisfaction of their consumers (OLIVEIRA; BORGES, 2018)

A program that is the basis for total quality is 5S, being: sense of use, sense of ordering, sense of cleanliness, sense of health and sense of self-discipline, which contribute to potentiating people's time and ability (SANTOS, 2011).

The objective of the 5S program is to improve the competitiveness, flexibility and effectiveness of the company through organization, planning and understanding of each activity (MARTINS; LAUGENI, 2015).

As already mentioned, the management of rural entrepreneurs is still poorly developed and, in this context, there is a scarcity of studies on the 5S program in this area. Therefore, the study addressed the 5S program implemented since 2012 in a rural property in Mato Grosso in order to identify the perception about the program in the three hierarchical levels of rural property.

In this sense, the study provides information about its practice in a rural property involving the indicators used for analysis, perception of before and after implantation from the view of each hierarchical level, as well as limiting and favoring factors in relation to the use of the 5S program.

The article is structured as follows: in this introduction we have the justification and objective for the realization of this study; then the adopted method is presented; in the next topic is the review of the key concepts for understanding of the 5S program and the following is the analysis and discussion of the data in the light of the theoretical basis, ending with the final considerations.

2 THEORETICAL FOUNDATION

2.1 FEATURES OF THE 5S

The 5S appeared in Japan in the 1950s in the post-war period when the Japanese received guidance from American experts for quality control. The Japanese perfected American techniques, which became known as Japanese-style Quality, Total Quality Control (TQC)."

The role of 5S is to take care of the base, facilitating the learning and practice of quality concepts and tools, including the care of the environment, equipment, materials, methods, measures, and, mainly, people (CRUZ, 2018). Mendonça (2009) also highlights that to achieve total quality it is necessary to use tools, programs and techniques, among which mentions the 5S.

The 5S program consists of the effort and commitment of the employees of an organization to make and maintain the work environment organized, clean, standardized and with discipline in performing the work (CAMPOS et al., 2005). The name 5S comes from the five words that have the initial "S", all coming

from the Japanese language: Seiri, Seiton, Seiso, Seiketsu and Shitsuke. To maintain the same initials of the Japanese words, when it arrived in Brazil in 1991, they were translated as "senses", being: sense of use, sense of ordering, sense of cleanliness, sense of health and sense of self-discipline (KNOREK; OLIVEIRA, 2015).

The application of the 5S allows to achieve the desired quality in the work environment and brings benefits, among which the reduction of waste and costs (KNOREK; OLIVEIRA, 2015; ZANELLA, 2009).

The following are characterized each of the five senses: use, ordering, health, cleanliness and self-discipline.

a) Sense of Use (Seiri): identifies and parades the necessary materials, tools, equipment, utensils, information and data of the unnecessary, leaving in the work environment only the essential to be used and the rest is given appropriate destination, whether repair, donation, or other purpose (MENDONÇA, 2009). For Knorek and Oliveira (2015) and Ribeiro (1994) the sense of use eliminates resources and materials not used in the workplace, leaving available only what is necessary, avoiding excess, waste and misuse.

b) Sense of Ordering (Seiton): Frequently used items should be close to items of sporadic use, preventing the work routine from being loaded with underused materials/information and others being easily located (ZANELLA, 2009). This sense presents appropriate methods and defines appropriate locations to organize the materials, having as criterion ease for storage, identification, management, replacement, return to the place of origin after use, among others. (BERTAGLIA, 2003).

c) Sense of cleanliness (Seiso): takes care of cleaning the work environment in order to always keep it clean, contributing to a more productive and healthy environment for people, besides generating well-being and good impression. It is important to note that cleaning involves the entire company and not only in some pontos. (KNOREK; OLIVEIRA, 2015). For Ribeiro (1994), cleaning should be seen as an opportunity to survey the work environment to identify and attack the source of problems. For a better understanding of this process, it is essential that the cleaning of the environment be done by the workers themselves who use the site.

d) Sense of health (Seiketsu): values that all three previous "S" are maintained, ensuring a visual standard, favorable environment for health and safety, taking care of the speakers colaband work environments (ZANELLA, 2009). The main benefits of this sense are: strengthening good personal hygiene habits, improving hygiene conditions; reduce or avoid accidents at work; favorable conditions for production (SANTOS, 2011).

e) Sense of self-discipline (Shitsuke): implies eliminating bad habits and building good habits, that is, implement the habit of observing and following norms, rules, procedures, meeting specifications, whether written or informal, but for this to happen the employee must change his behavior, having discipline (BERTAGLIA, 2003). The benefits of this sense are: improvement in personal relationship in the organization, improvement of quality, reduction of accidents by the performance and compliance with safety standards (RIBEIRO, 1994).

2.2 5S DEPLOYMENT

The implementation of 5S requires dissemination of its concepts to all members of the company, from strategic to operational. "The 5S promotes the culture of people to an environment of economy, organization, cleanliness, hygiene and discipline, fundamental factors to high productivity" (CAMPOS, 2013, p. 38).

Once implemented, 5S improves the competitiveness, flexibility and effectiveness of the company through organization, planning and understanding of each activity, not only can large companies benefit, but small companies can also improve their activities by seeking better results with less effort (MARTINS; LAUGENI, 2015).

In addition to contributing to greater employee involvement, the program also seeks to improve the work environment, reduce costs, waste and time to perform tasks, increase optimization and quality, whether service, product or any other activities performed (KNOREK; OLIVEIRA, 2015.).

Silva et al. (2001) state that 5S program is easy to understand and also to practice, and highlights positive changes involving: emergence of leaders, involvements of all sectors of the organization, is based on education, training and effective work practice, allowing substantial gains in quality and productivity, as well as improving the morale of its employees.

Before starting 5S activities, Hirano (1994) recommends that the first thing to do is photograph the site. It also mentions that the 5S program should be adapted according to the characteristics and needs of each company, taking care not to clash with the local culture. Each step needs to be well understood and why it is carried out must be taken into account.

For the implementation of the 5S program, Rodrigues (2006) suggests a script of eight steps to follow presented.

Step 1: Commitment of the strategic level: First, a meeting should be held with management, including senior management, to verify knowledge about the program and its commitment. To make aware that the company's management will have the function of creating the structure for the execution of the 5S, elaborating the plano, training and promoting the integration of employees.

Step 2: Knowledge of the tactical level: Conduct training to empower all managers about the methodology, which includes the explanation of each sense and the best way to deploy. Having as main themes: meaning and importance of the use of the program; importance of the role of administration in the implementation; how it can improve work; understand the current situation of the company; what benefits the program will bring; involvement and multiplication of concepts in the various sectors; identification of waste; how to create a favorable environment for program development; create a team of facilitators and create an action plan. Such procedures prepare the ambience for the steps to follow.

Step 3: awareness of the operational level: at this stage, the person responsible for the program informs all employees of the decision to implement it: in a meeting we talk about the importance of the concepts of the program and of each of the senses

Step 4: Formation of 5S teams: teams composed of employees from different sectors and administration should be formed, having the function of disseminating the objectives of the program, guiding, clarifying doubts and making routine follow-up visits in all sectors.

Step 5: Training of program facilitators: it should be done in a course with the front of a professional with experience in the practice of concepts in companies that have already implemented the program, visits and reading of a specific language. The team will create material to assist in the deployment campaign. It is suggested that pamphlets, explanatory booklets and posters be developed.

Step 6: Recording the current situation: through photos or filming. Minutes may be prepared to record the situation of each site, including the level of criticality of each sector. Through this record, you can compare the before and after program deployment.

Step 7: Dissemination of the program: it should be clear and creative. The material created in the training stage of the facilitators will be used to disseminate the program. It is suggested that promotional materials (banners, posters, etc.) be placed in places that are easily accessible and that flyers be distributed at strategic times or that they are available in places of easy access.

Step 8: D-Day (day of the task force): it is the start day of the program and aims to integrate everyone from the company to the practice of 5S. There is also the disposal of everything that is useless and is also performed a general cleaning of the desktop.

3 METHODOLOGICAL PROCEDURES

The research had a qualitative approach, which is characterized by the understanding of a social group, an organization and allows a better view and understanding of the context of the problem (GERHARDT; SILVEIRA, 2009). In this type of investigation, data are usually obtained in the field, in the environment experienced by the participants (CRESWELL, 2014). Thus, the data were collected in the context of the 5S program involved in a rural property in Mato Grosso and as such, it is a case study. The case analyzed was a rural property located in the municipality of Campo Novo do Parecis-MT, which operates in the production of grains (since June 1989) and cattle (since 2014). It has 50 employees and cultivates an area of 9,500 hectares. Its main activity is the cultivation of grains and 1,000 hectares destined to livestock.

Regarding the objective, the case study was exploratory and descriptive (YIN, 2010). The first is that there are few studies on the theme 5S studied within a rural property. Thus, it allowed an overview of a certain fact in question (GIL, 2010). Regarding the descriptive aspect, which seeks to describe the character of a given population or phenomenon (GIL, 2010), it made it possible to outline the perspective on the 5S program at the three hierarchical levels.

In addition to bibliographic research in books and scientific articles, the study was documentary, involving primary data sources (LAKATOS; MARCONI, 2011), being then, in addition to questionnaires, documents of the rural property were used as evaluation forms containing the indicators used in the evaluation of the 5S program and historical data of the rural program.

For data collection in October 2019, a questionnaire was directed to the three hierarchical levels of the company: strategic, tactical and operational. The strategy had as respondents the owner and his wife. At the tactical level, six managers were asked and at the operational level 24 employees.

The technique adopted for data analysis was content analysis (BARDIN, 2011) and then portrayed the context of the 5S program in rural property from the information obtained.

4 RESULTS AND DISCUSARE

In this topic, data on the 5S program on rural property are presented in relation to the sectors and indicators used for its evaluation.

The actions related to the implementation of the program occurred in January 2012. Factors such as improvement of processes, the work environment and conviviality were motivating for the owner to make such an option.

To implement the program, all employees were made aware of the five senses and, from July 2012, the maintenance phase of the program began, which includes external audits and Internal. In the implementation, the steps indicated by Rodrigues (2006) were followed. As Carvalho (2006) indicates, preparatory meetings, dissemination materials such as bulletins, bulletin boards, among others, were aimed at raising employees' awareness and gaining engagement, which is fundamental to the success of the program.

From November 2013 there was a pause in the work of the externa and internal audit, being resumed in 2017 in the form of a partnership of rural property with the State University of Mato grosso (UNEMAT), Tangará da Serra Campus. The courses involved are Administration and Agronomy and the action takes place in the form of extension project with the participation of teachers and undergraduate students of these courses. This group is the external auditors responsible for evaluating the rural property sectors for the 5S program.

The sectors where the 5S program is imposed are: warehouse, agricultural, supplies, livestock and the administrative. For evaluation, indicators are used for each sense, to which a score is awarded from 1 to 5. Figure 1 shows part of a form used in the audits carried out in the 2018/2019 harvest.

Figure 1 - Cut out of the 5S evaluation form used in 2019

AVALIAÇÃO 5S	
Setor:	
Área de Atuação:	
Auditor(es):	
Acompanhante(s):	
ITENS DE AVALIAÇÃO	
SENSE DE UTILIZAÇÃO	NOTA (1 A 5)
Os materiais necessários para o trabalho estão nas quantidades adequadas.	
Bens permanentes: Móveis, máquinas, equipamentos em quantidade e estados adequados	
Não há excesso de informações nos murais e quadros do setor (quando aplicável)	
Não há estoques em excesso no setor	
MÉDIA DO SENSO DE UTILIZAÇÃO	

Source: rural property (2019)

Through the evaluation form, specified by sector, and on-site analysis, the scores are generated and the average of each sector is subsequently made, and the result of the 5S is generated. Figure 2 shows the result of one of the locations. Grades 0 through 5 are distributed as well: from 0 to 2.99: Bad; 3 to 3.99: Regular; 4 to 4.5: Good and 4.51 to 5: Great. Based on illustration, one can perceive that for the senses organization and cleanliness the concept is Regular; organization and self-discipline is Good and for the sense hygiene is Great. With each new audit, the status of the five senses is updated.

This visual control, which is related to Ribeiro (1994), in the various environments, through the installation of frames and panels generates motivation, making the workplace more pleasant.

Figure 2 - Result of the five senses fixed in the sectors of the company



Source: rural property (2019)

Currently the maintenance of the program takes place in the following ways: in the integration of the new employee with the company; by continuing education (annual recycling) at the beginning of each crop year when the points of the said programme are resumed; managers daily reinforce the program for employees of the respective sectors and, four audits are still carried out annually.

When they are admitted to the rural property in the process of integration of new employees, information about their general functioning is passed on in which the 5S program is included. In the first stage is presented the history of the company, mission, vision, values, objectives, projects and

administrative programs, rights, duties and benefits. Being delivered from the internal rules manual. In the next phase is made the presentation of all the facilities and other employees of the company, which allows an overview of the context where the person will be inserted. The third and final step consists of the new contractor developing practical activities in each sector with the accompaniment of an instructor, being at that moment presented the 5S program, each of the senses, with what happens in the property and what care he needs to have. It is noted then, that already at the time of integration the new employees have the first contact and get to know the program developed in the company.

As for continuing training on the 5S program, rural property does annually what it calls "Recycling", always at the beginning of each crop year for employees and sectors. The content covered in this training involves:

a) results: presentation of all sectors and their media of the senses of the 5S Program; (b) amendment of regulation: if any, at that time it is submitted; c) carrying out the audits; d) award: the sector with the highest average in the senses is mentioned, having as a prize the value of R\$ 50.00 for each employee of the sector; e) clarifications about the 5S program: presentation of the senses and attention to critical points, in which the senses do not reach the average; f) recreational activities: gymkhanas and games to internalize the program and its senses.

Rural property has regulation for the 5S Program that addresses the methodology, audits, evaluation forms, areas of responsibility and the bonus to the sector that performs the best in each audit.

Changes are made in the regulation whenever necessary and at the time of "Recycling" are presented. An example was the decision of the rural property for the crop year 2019/2020 to carry out internal audits (in addition to the external ones), and this was then communicated and changed. Internal audits will use a checklist of items to be evaluated that will be passed on to the sector and it is not necessary to write a final report (as is done by the external), since they will serve with monitoring and non-evaluation, therefore, will not generate notes. These internal actions will take place annually in November and February, with employees in the administrative sector as responsible.

As already mentioned, the grades will only be awarded to the external audit, from which the award is awarded. Thus, after the completion of the audits and dissemination of the results, the sector with the highest final average will be the winner of a prize with a value of R\$ 50.00 per person. If there is a draw of the notes, both will be awarded. This practice, according to Silva (1996) is a way to improve the program through engagement.

4.1 EXTERNAL AUDITS

As already mentioned, due to the partnership with UNEMAT since 2017, the evaluations of the sectors are carried out in four annual external audits starting in November (1st), February (2nd), May (3rd) and August (4th).

In the months for the audits, the process manager contact the project group and jointly establishes a date for visits to the rural property, located 120 km from the headquarters of the municipality of Tangará da Serra-MT. The stipulated date is only known to the manager and the project team, in order to ensure that the situations to be evaluated retrace the day-to-day of the context in which the work takes place. The need for the manager to know the day of the visit is necessary due to the displacements of the group of auditors, since it demands transportation by the rural property to travel the group that normally involves 7 to 9 people.

When audits are carried out in the administrative sector, because it is located in the city of Tangará da Serra, it does not require displacement, so no one, except the auditors, is aware of the day when the audit will take place.

After checking on-site action, following the evaluation form of the 5S program, each pair of auditors prepares a written and photographic report for the sector that evaluated. If there are nonconformities, these are demonstrated in every sense. For the inconsistencies found, in addition to the notes being proportional, suggestions for improvements are also made. When the situation conforms to the one provided for each sense, it is noted " accordingly" and a grade 5 is given .

The auditors' report is found in a single report and, upon closing the document, the group makes a delivery meeting with the managers and directors of the rural property to give knowledge and clarification of the audit. In possession of this detailed report, the process manager presents the report to the respective sector and collects referrals regarding the non-conformities pointed out. In each new audit the reported process repeats itself.

The cycle ends with the fourth audit, having the same dynamics as the above , in the meantime is presented the final average of the senses for the respective crop year.

4.1.1 Program audit data

Data obtained in the rural property documents reveal that although the 5S Program was implemented in 2012, only in the crop year 2014/2015 the first audit was carried out. The following year, it was not held (2015/2016 harvest). From the 2017/2018 and 2018/2019 harvest, audits are resumed and, since then, carried out through a multidisciplinary team of UNEMAT teachers in an extension action.

It is also noteworthy that from the 2017/2018 crop years, new areas were created by rural property and grouped into 5 sectors, and then the organizational structure in 2019 was composed of the sectors: agriculture, livestock, supplies, warehouses and administrative, the latter being located in the city of Tangará da Serra.

Table 1 shows the overall averages of the 5S Program per sector in each crop year with grades from 0 to 5. In the 2014/2015 crop year, the initial average score of 4.6 fell to 4.16 in the 2016/2017 crop year, which can be attributed to the fact that no audit was performed in the previous crop year

(2015/2016). Even with this fall in the score, it is noticed evolution, since in the 2017/2018 and 2018/2019 harvests, the averages were 4.38 and 4.71, respectively.

Figure 3 - Evolution of averages by sector of the 5S Program from 2014 to 2019

Period	Harvest year 2014/2015	Harvest year 2015/2016	Harvest year 2016/2017	Harvest year 2017/2018	Harvest year 2018/2019
Notes	4,6	-	4,16	4,38	4,71

Source: survey data (2019)

From the data shown in Table 1, it can be inferred that the maintenance of the program goes through a set of actions. An example was the fact that rural property, by discontinuing audits, had the average score reduced and when resuming the auditorias the averages increased.

4.2 VISION OF THE 5S PROGRAM AT THE THREE HIERARCHICAL LEVELS: STRATEGIC, TACTICAL AND OPERATIONAL

The study sought to know the perception regarding the 5S program at the three administrative levels of the company: strategic, tactical and operational, in Chart 2 presented the comparison.

Table 2 - Characterization/perception of the 5S Program at the three hierarchical levels of the company

Strategic Level					Tactical Level					Operational level				
I knew the 5S program before joining the company														
Yes 100%	No -				Yes 66,7%	No 33,3%				Yes 41,7%	No 58,3%			
Participated in the implementation of the 5S program														
Yes 100%	No -				Yes 33,3%	No 66,7%				Yes 37,5%	No 62,5%			
Difficulties encountered in the implementation of the 5S program														
Yes 100%	No -				Yes 50%	No 50%				Yes 4,2%	No 95,8%			
Perception of the 5S program in your industry														
Very Good (MB) 100%	Good -	Indif -	Bad -	Very Bad (MR) -	MB 100%	Good -	Indif -	Bad -	MR -	MB 75%	Good 25%	Indif -	Bad -	MR -
Opinion on 5S program audits in the sector														
MB 100%	Good -	Indif -	R -	MR -	MB 100%	Good -	Indif -	R -	MR -	M. good 45.8%	Good 50%	Indif 4.2%	R -	MR -
Must change something in 5S audits														
Yes 50%	Not 50%				Yes 16.7%	No 83.3%				Yes 16.7%	No 83.3%			
Involvement of superiors in the 5S program														
MB -	Good 100%	Indif -	Bad -	MR -	MB 83.3%	Good 16.7%	Indif -	R -	MR -	MB 45.8%	Good 50%	Indif 4.2%	R -	MR -
Involvement of industry employees in the 5S program														
MB -	Good 100%	Indif -	R -	MR -	MB 50%	Good 50%	Indif -	R -	MR -	MB 29.2%	Good 45.8	Indif 12.5%	R 12.5%	MR -

Source: Survey data (2019)

According to chart 2, the strategic level (the owner and his wife) already knew the 5S program before the implementation, as well as participated in the implementation. In this sense, they mention that the difficulties encountered to implement the program were the change of culture and discipline. About the perception of the program in its sector and audits, both are perceived as very good.

Asked about changes to 5S audits, one of the owners said there should be greater rigidity on the part of rural property for the program to be part of the culture of all employees. About the involvement of superiors (the level at which they are) and also of the collaborators in the 5S program, they perceive it as being good.

With regard to the involvement of managers, the owner says that greater awareness and commitment to the 5S program is necessary. Programs the involvement of the team, membership and participation of all employees, aiming at understanding the benefits that the program provides.

At the tactical level, 66.7% of the managers knew about the 5S program before joining the company. However, 66.7% (same percentage) did not participate in the implementation because they were not part of the rural property in 2012. Of those who participated in the implementation of the program, 50% of them reported difficulties such as: "Not the beginning until the collaborators buy the idea and put into practice, is seen a little resistance; Understanding of the importance of the program".

Regarding the perception of the program and the audits carried out in its sector at the tactical level, all managers perceive it as very good. Regarding suggestions for changes in audits, 83.3% understand that it is not necessary, but 16.7% of the managers of this mentioned that there should be changes, but did not mention which ones.

Regarding the involvement of superiors with the 5S program, the tactical level mostly cites it as very good (83.3%). For the involvement of employees, the perception was 50% as very good and 50% as good.

At the operational level, 41.7% of the employees knew about the 5S program before joining the company, but the majority (62.5%) did not participate in the implementation because they were not on rural property in 2012.

Regarding the perception of the program in the sector, a variation was observed in relation to the other levels, i.e., 75% mentioned the 5S program as very good and 25% good. In relation to audits, at the operational level 45.8% considers very good and 50% as good and 4.2% as indifferent. As for there being changes in audits, the majority (83.3%) understand that it is not necessary to change it. However, those who understand that need to change it was suggested: "every six months could have alignments or training talking about the senses and how best to drive with all employees in general in relation to the 5S; in the next auditorias, the manager and one employee at a time, follow the entire path of the auditor; make internal audits and see which people still encounter difficulties with it; a little more discipline from all employees."

The importance of audits for the program is highlighted by Carvalho (2006) when mentioning the realization of them as a fundamental and essential factor for organizations, but depends mainly on the maturity and degree of responsibility of all employees and staffs of work. Silva (1996) also mentions this openness to suggestions as favoring the stability of the 5S program.

Regarding the involvement of employees in the operational sector in the 5S program, it is observed that 29.2% consider it very good, 45.8% good, 12.5% indifferent and also 12.5% think involvement is bad. At this level, variation is noted in relation to the others, since a lower percentage perceives how very good and still 12.5% mention it as bad. The lack of engagement can with the program promise, give its importance, since for the support of the 5S program requires the commitment of its employees (Silva, 1996).

With regard to the benefits that the 5S program brings to the company, the perception of employees of the three strategic, tactical and operational levels is shown in Chart 3.

Table 3 - Benefits of the 5S program for rural property in the perception of the strategic, tactical and operational level

Strategic		Tactical Level		Operational level	
Improving the environment work	100 %	Improvement in the environment of work	19%	Improvement in the environment of work	41,7 %
Cost reduction	100 %	Cost reduction	16%	Cost reduction	-
Reduces waste of materials	100 %	Reduces waste from materials	15%	Reduces waste from materials	-
Reduces waste of time	100 %	Reduces waste from time	19%	Reduces waste from time	4,2%
Promotes greater organization, hygiene and discipline.	100 %	Promotes greater organization, hygiene and discipline	19%	Promotes greater organization, hygiene and discipline	54,1 %
Increased productivity in the work	100 %	Increased productivity at work	12%	Increased productivity at work	-
Total	100 %	Total	100 %	Total	100 %

Source: survey data (2019)

It is visualized that the strategic level cites several benefits provided by the 5S program, recommended by Ribeiro (2010). At the tactical level, the percentages vary, since 19% of managers consider that the program promotes improvement in the work environment, 16% cost reduction, 15% in material waste, 19% reduces time waste, 19% promotes greater organization, hygiene and discipline and 12% productivity in the work.

For the operational level, it is observed that, in addition to variation, the benefits are concentrated in three of the six listed and perceived by the other levels. Thus, the percentages were distributed: 41.7% in the improvement in the work environment, 4.2% that reduces the waste of time and 54.1% considers that it promotes greater organization, hygiene and discipline, not citing the other benefits.

It can be seen agreement between the levels as some benefits that the 5S program provides: improvement in the work environment, reduction in time waste and promotes greater organization, hygiene and discipline. It is mainly perceived at the operational level that there is still a lack of greater awareness and understanding about the benefits that 5S provides, since they did not perceive benefits such as cost reduction, waste of materials and increased productivity. Thus, it is denoted that the program at this level still needs to be better perceived or worked by the company.

The evidence raised regarding the benefits is consistent with Alencar (2012) on the benefits of the 5S program, among which highlights the organization, mobilization and transformation of the people involved, favoring the culture of continuous improvement.

4.3 LIMITING AND FAVORING FACTORS IN RELATION TO THE USE OF THE 5S PROGRAM

Among the main difficulties encountered for the 5S program, Silva (1996) highlights the culture change, a fundamental aspect for organizational improvement. In this sense, the research raised the factors considered to favor and also the limiting factors regarding the program's suitability, which are presented in Chart 4, considering the three hierarchical levels of the company.

Table 4 - Factors that favor and limit the 5S program by levels

Factors favoring the 5S program		
Strategic Level	Tactical Level	Operational Level
<ul style="list-style-type: none"> - Organization - Process agility - Proper use of tools - Cleaning 	<ul style="list-style-type: none"> - Board commitment - Audits and annual review to tailor the program to the farm - Property investment in physical /structural improvements - Improved working conditions - Organization, cost reduction - Organized, safe, clean and avoiding various problems. 	<ul style="list-style-type: none"> - Organization, hygiene and discipline - Improvement and agility in processes - Increased performance on the desktop - Improves quality of life in the workplace - Facilitates the performance of activities
Limiting factors to the 5S program		
Strategic Level	Tactical Level	Operational Level
<ul style="list-style-type: none"> - Different culture of each person - Employee turnover - Behavioral change resistance - Breaking paradigms 	<ul style="list-style-type: none"> - Culture of new entrants in the company - Discipline, it is a characteristic of the human being to accommodate - Holistic view on the part of employees, see beyond your sector - In the beginning, adapt and buy the idea of the program 5S - Bureaucracy in relation to the return of parts, and sometimes difficulties to find something. 	<ul style="list-style-type: none"> - The resistance on the part of some employees to join the - People's self-discipline is the great difficulty in using the 5S - Everyday use items are often used and are often considered out of place, without considering the fact being used daily.

Source: survey data (2019)

According to table 4, for the strategic level the favoring factors are: greater organization, agility in processes, proper use of tools and cleaning as positive points. The tactical level considers that the 5S favors the commitment of the board, the increase of investments in physical/structural improvements, which improve working conditions and generate a reduction of costs. The operational level perceived as

favorable factors, in addition to organization, hygiene and discipline, that the program improves quality of life, facilitates the performance of activities, which streamlines processes. These elements are in line with what Santos (2011) observed, that is, it is clear the objective of the 5S program to improve the effectiveness of the company by organization, which creates favorable working conditions for performing tasks. Carvalho (2006) also mentions that the most pleasant, clean and organized work environment facilitates the performance of tasks in a more appropriate way, with more quality and satisfaction. As for the limiting factors for the 5S program, both for the strategic and tactical level, it was mentioned the different culture that each collaborator when joining the company, and this causes resistance in behavioral change, this last factor had unanimity at the three levels. The strategic level also mentioned the need to break paradigms to adapt to the company's culture. This behavior, i.e. resistance to the program by some employees was also observed by Ribeiro (2010).

Another point mentioned as limiting the program by the strategic level was the turnover of employees, which implies the realization of constant training for new ones who join the company.

In addition to the aspects already mentioned, the tactical level mentions as a limiting factor the lack of discipline of employees and holistic vision, because they do not "see" beyond their sector. It was also identified as a limitation by the tactical level and the operational certain bureaucracy in the return of parts and the difficulty of finding some materials. This aspect shows inattention to the sense of ordering, which aims to easily use and provide reduction in search time (SILVA, 1996).

It is observed the mention by all levels of the resistance factor and the lack of discipline of the collaborators as limiting the support to the 5S program. The discipline is fundamental to maintain the program, and as such, needs to be reinforced via training in such a way that repetition leads to improvement and understanding of the procedures implemented (BERTAGLIA, 2003).

5 FINAL CONSIDERATIONS

The study contextualized the 5S program in the âmbito a rural property of Mato Grosso that has implemented the program in its sectors since 2012, being periodically monitored this program by audits.

There was a scarcity of studies on the 5S program in the perspective proposed for the rural segment, thus we sought to identify the perception about the 5S program at the three hierarchical levels: strategic, tactical and operational. The evidence brought by the data shows that the perception at the strategic and tactical level was seen by all as good and at the operational level, very good for 75% and good for 25%.

As for the perception of the before and after the implementation of the 5S program, it was evident the improvement of the five senses in all sectors when making the comparison. Improvements were perceived, for example, in which the agricultural sector, before the implementation of the program had as starting notes for all senses, the predominance of 1 and 2. After deployment the grade went to 4 in all senses. This result was observed in all the senses of the other sectors, that is, the perception of improvements after the implementation of the program was unanimous.

The study also reported the favoring and limiting factors regarding the 5S program. Among the limiters, the following stand out: the different culture of employees who enter the company, resistance to change, lack of discipline and bureaucracy.

The approach proposed here contributes to the management of rural enterprises by dealing with the 5S program as a tool in the process of improving the management of the work environment. It allows other rural properties to know the 5S program and its application in the rural context based on the account of the percepção of this program in an area previously little discussed. The perspective provided is an effort to use alternatives that bring positive results in a sector that needs improvement in the area of management, which is representative for the economy brasileira. The report may serve as an example for other rural properties that have an interest in its application, especially considering its favoring and limiting aspects in the rural property scope.

A limitation of the study was theoretical due to the lack of reports of the 5S program in rural properties for comparison purposes. Another limitation was as for the subjects surveyed at the tactical and operational levels, since part of them was not in the rural property before and/or implantation, which prevented them from comparing the before and after.

For future studies, it is suggested to identify the interest and level of knowledge of other rural properties about the 5S program.

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