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TITLE: IMPLEMENTATION METHOD OF WORK IN THE AREA OF CULTURE OF ROSES FREEDOM OF BELLA ROSA FLORICOLA THROUGH THE PROCESS ANALYSIS TO IMPROVE PRODUCTIVITY MONO FACTOR

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Abstract. The following research is to apply a method study to improve the labor productivity of "Freedom" rose growing in Bella Rosa.

First I use the company´s documentation to initially diagnose using techniques and instruments for obtaining information. The variables to be measured are identified, the description of the various tasks that form part of the crop harvesting process in than developed and a study of initial times of the tasks "harvest and mesh". From this point, a review is made of the current method of "harvest and mesh" with the help of checklists.

The new work method is designed, clearly noting problems..

As a result of the research is the implementation of a new working method that improved productivity by six percent which means a saving of $ 0.02 per unit of harvested mesh.

Keywords: *Methods, Productivity, Culture, Freedom, Bella Rosa.*

1. Introduction

Productivity in the flower plantations remains an unsolved problem, since the working methods used so far have failed to increase productivity.

One of the processes within the Bella Rosa floriculture, located at Km 3.2 Cajas-Tabacundo pathway, is growing; within the crop a number of tasks are performed, among which the most important is "harvest and mesh" representing about 45% of labor costs, is necessary, then, to find alternatives to optimize the direct labor.

The main objective is to design and implement a new working method to improve productivity.

2. Materials and Methods

2.1 Procedure of method study
Selection of the task

To select the task under study methods are considered economic factor and the task was chosen "harvest and mesh" which means about 45% of labor costs.

Breakdown of the task operations

The task chosen was "harvest and mesh" the same that was broken down into six steps:

1. Cut 20 stems.

2. Move the dive boat.

3. Dip buttons.

4. Move the mesh area.

5. Mesh and place in tub hydratation.

6. Return to cut.

Measurement of time and activity

The six operations were subjected to time study resulting normal time each, after calculation is performed supplements and finally the standard time of the task is calculated.

Analysis methods

Checklists and background questions were used, this facilitates the detection of operations that do not add value, among which are the transfer and operation "to mesh and placed in tub hydratation".

Design of the new method

In this step the problems set out objectively in order to generate ideas to optimize the task being studied, after selecting the idea that more economically feasible in this case was the change from conventional mesh is performed by cartonplast, leaving the new method as follows:

1. Cut 20 stems.

2. Move the dive boat.

3. Dip buttons.

4. Move the mesh area.

5. Close cartonplast and place in tub hydratation.

6. Return to cut.

Applying the new method

The new working method is implemented and timing and activity is performed to verify the improvement.

3. Results

Description	Type	Correct time (s)	Labor cost per motion ($/min)
Cut 20 stems	O	262,26	0,22
Move the dive boat	⇒	38,96	0,03
Dip buttons	O	7,85	0,01
Move the mesh area	⇒	11,60	0,01
Mesh and place in tub hydratation	∇	66,00	0,06
Return to cut	⇒	38,03	0,03
TOTAL		424,70	0,35

Figura 1. Initial study of methods and times

Description of the operation	Type	Correct time (s)	Labor cost per motion ($/min)
Cut 20 stems	O	262,26	0,22
Move the dive boat	⇒	38,96	0,03
Dip buttons	O	7,85	0,01
Move the mesh area	⇒	11,60	0,01
Close cartonplast and place in tub hydratation	∇	19,80	0,02
Return to cut	⇒	38,03	0,03
TOTAL		378,50	0,32

Figura 2. Study proposed methods and times.

In Figure 1, we see that the initial method consumes agricultural worker 424.70 seconds in the task "harvest and mesh" at a cost of $ 0.35, in Figure 2, we can see that with the implementation of the new method the time the task is reduced to 378.50 seconds and the cost is reduced to $ 0.32, should be emphasized that because the cartonplast is more expensive than conventional meshes, saving the end is not $ 0.03 but is $ 0.02 per unit of harvested meshes.

4. Conclusions

I use the company´s documentation to initially diagnose using techniques and instruments for obtaining information as well as reviewing the company´s documents and literature of the subject asused for secondary information.

Research conducted identified the variables to be measured, the description of the various tasks and also a study of initial days of harvest and gillnetting task resulting a standard time of $7.08[\min - woman/man]$.

A review was made of the current method of harvest and mesh task with the help of checklists, this favored for alternatives and improve the current task method.

To design the new working method operation that does not generate value by which this was reduced, changing are clearly stated problems, such as the farm worker consumes 66.00 seconds in the mesh and place in tub hydration operation, by operating close cartonplast and place in tub hydratation, optimizing time by 70% and reducing costs by 66.67%.

As a result of research we implement the new working method that generates improved productivity monofactorial 6% which means a saving of $ 0.02 per unit of harvested meshes, considering that the production volume of July 2014 was 89889 meshes, saving for the company's 1797, $ 78 per month.

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