Production activities and procurement of input research center for orange and subtropical fruit Batu City, East Java

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Received: 14 June 2022 | Revised: 16 June 2022 | Accepted: 20 June 2022

ABSTRACT: The objectives of this activity are: (1) able to manage the production process of tangerines (Citrus reticulata); (2) able to manage the procurement of production inputs of tangerines (Citrus reticulata). The activity was carried out on March 02, 2020 to March 20, 2020 at the Research Institute for Citrus and Subtropical Fruits, Batu City, East Java Province. The methods that are used was descriptive method that include managing the production process and managing and procuring production inputs include. Based on the description of the results and discussion, it can be concluded as follows: (1) the management of the production process of tangerines explains that the production process or cultivation of tangerines, namely planting oranges, fertilizing tangerine trees, emboading tangerine trees, pruning tree branches tangerines, installation of mulch on citrus mounds, thinning of tangerines, and sanitation of tangerine fields; and (2) management of the supply of tangerine inputs, including preparing enters or plant scions and potting polybags or preparing planting media for citrus seed rootstock.

Keywords: citrus reticula, input, orange, production

INTRODUCTION

Tangerines are a term for oranges belonging to sweet oranges. The name of this tangerine is popular among the people of Java, Sunda and Madura. This orange is actually very popular among the people of Indonesia and the world, it's just that the name tangerine which is only known in some areas makes this orange sound foreign (Setiono, 2014). This plant is a type of tree with a height of 2-8 meters. The winged petiole is very narrow to the point of being wingless, 0.5-1.5 cm long. Leaf blade elongated oval, elliptical or lanceolate with a blunt tip, slightly curved inward, serrated edges with very weak serrations with a length of 3.5-8 cm. The flowers have a diameter of 1.5-2.5 cm, androgynous white corolla. The fruit is a compressed ball with a length of 5-8 cm, the skin is 0.2-0.3 cm thick and the flesh is orange. The branches are thornless and the petals are 1-1.5 mm wide (Sutopo, 2013).

Citation:

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EcoManS Journal
Economic, Management, and Social Sciences
ISSN xxxx-xxxx (print) xxxx-xxxx (online)
Volume 1, No.2 2022
form of physical activities that must be done independently or take part in routine physical work carried out by companies/agencies (Polinela, 2020). The global challenge in the world of agricultural research and development today is how to meet the food needs of 9.1 billion people by 2050 (Setiono, 2014). The step that is then commonly taken is to increase food production by 50-70 percent, but the important thing that should not be forgotten is reducing food loss and food waste (Balijestro, 2014a). Studies generally find that one-third of the world's food production is lost or damaged (Balijestro, 2020b).

Indonesia's total citrus production in 2020 is 2.5 million tons. This amount actually exceeds national consumption needs because Indonesia's per capita citrus consumption is 4 kg/year in 2020 or around 1.1 million tons per year. In a previous study, (Sutopo, 2013) stated that the loss of citrus fruits in farmers was still quite high, namely 34 percent. The loss figure is obtained from the plantation to the delivery process to consumers (markets/supermarkets).

Food loss occurs at the stages of production, storage, packaging, retail, and consumption. Studies that have been carried out by various international and national organizations, show that between 30-50% (1.2-2 billion tons) of all food produced on the planet is lost and not consumed. The trend of food loss that occurs in developed countries is more at the retail and consumption stages, while developing countries are more at the production stage (Balijestro, 2014a).

In Indonesia, lost fruit can be easily found in gardens and markets, one of which is Jeruk. Citrus is a fruit crop with the 3rd largest production nationally and the highest level of household expenditure on fruit. In traditional markets and wholesale markets it is still common to find damaged fruit due to the careless packaging process so that during transportation the damage increases significantly (Balijestro, 2011) (Nafisah, 2013). Implementation of Field Work Practice Activities (PKL) is carried out in one of the agencies in East Java Province. Research Institute for Citrus and Subtropical Fruits (BALITJESTRO) is one of the Technical Implementation Units (UPT) for research and development under the auspices of the Ministry of Agriculture and is directly responsible for the Horticulture Research and Development Center. In 1941-1957 the status of Balitjestro was under the People's Plantation Bureau with Community Plantation Plant Commodities (Balijestro, 2011) (Balijestro, 2019). The Ministry of Agriculture has designated oranges as a national commodity in accordance with government policies aimed at encouraging people to love, choose, and consume national commodities produced by their own homeland (Balitbangtan, 2015). The Research Institute for Citrus and Subtropical Fruits as an Echelon III A UPT has a commodity mandate, namely oranges, grapes, apples, longan, and other subtropical fruits (Balijestro, 2020a). The objectives of this activity are: (1) able to manage the production process of tangerines (Citrus reticula); (2) able to manage the procurement of production inputs of tangerines (Citrus reticula).

**METHOD**

The activity was carried out on March 02, 2020 to March 20, 2020 at the Research Institute for Citrus and Subtropical Fruits, Batu City, East Java Province and Supervised Street Vendors were carried out on June 1, 2020 to June 06, 2020 which were carried out virtually or online (Nazir, 2013) (Sugiyono, 2019) (Mantra, 2004). The methods of managing the production process include: potting or preparing citrus seedling planting media, installing mulch on citrus mounds, planting tangerines, fertilizing tangerine trees, embroidering tangerine trees, doing sanitation in citrus gardens. tangerines, spraying fungicides and insecticides for tangerines, trimming tangerine tree branches, and thinning citrus fruit plants (Wachjar et al., 2009) (Balijestro, 2014a). The methods for managing and procuring production inputs include: preparing enters or scions of citrus plants, carrying out potting activities or preparing planting media for rootstocks for citrus seedlings, and trimming leaves on citrus seedlings (Balijestro, 2014b) (Balijestro, 2019) (Sugiyono, 2015) (Riduwan, 2004) (Julianto, 2015).
RESULT AND DISCUSSION

Management of Tangerine (Citrus reticula) Production Process
1. Fertilizing tangerine trees
Fertilization is carried out on tangerine trees by providing NPK, Urea, Za, and SP36 fertilizers. The way to apply fertilizer to the tangerine tree is by making a hole around the tree and sprinkling fertilizer into the hole and then closing the hole with soil again (Balijestro, 2015).

2. Cultivation of tangerines
Tangerines were planted in each bed with a bed size of 1m x 1m. Before planting, the seeds of citrus plants were put into a solution of Fungicide + ZPT which aims to protect the citrus seeds from fungal pests. Furthermore, the seeds are inserted into the planting hole and partially filled with soil and then given NPK fertilizer around the seeds (Balijestro, 2014a).

3. Embroidery of tangerine trees
Embroidery of tangerine trees is done to replace dead orange trees. This is one form of maintenance of citrus plants (Balijestro, 2014b).

4. Pruning tangerine tree branches
Pruning citrus tree branches aims to reduce excess and dry twigs and to increase the growth of citrus fruits (Balijestro, 2014b).

5. Installation of mulch on the mounds of citrus plants
The installation of mulch is done by spreading the mulch first, then at the ends of the mulch with bamboo clamps so that the mulch is tight. At the time of installation of mulch, the plant stems are in the middle or flanked by two finished mulch that is only open to the circumference of the stem (Piruluk, 2018). The time of mulching was carried out in the second fertilization period on citrus plants aged 3 months after flowering. Installation of plastic mulch is adjusted to the size of the stem and the age of the plant. At the unproductive age, it is enough to use mulch with a size of 1 m x 1 m and at the age of 3 years with a mulch size of 2 m x 2 m (Balijestro, 2011).

6. Citrus fruit thinning
Citrus fruit thinning aims to reduce the number of oranges that are excessive in one tree and citrus fruits with slow growth. Thinning aims so that the fruit can develop optimally (Balijestro, 2011).

7. Sanitation at home screen (tambulapot) tangerines
Sanitation in citrus tambulapot aims to clean weeds that grow around the plant (Balijestro, 2014a).

Procurement Management of Tangerines (Citrus reticula) Input
Input procurement management activities that have been carried out include preparing enteres or plant scions and potting polybags or preparing planting media for citrus seed rootstock (Balijestro, 2014c).

1. Preparation of enteres or scions of citrus plants
Preparing enteres or scions of citrus plants is done by cutting all the leaves and thorns on the scions of citrus plants (Balijestro, 2020a).

2. Preparation of polybag potting or preparing planting media for citrus seed rootstock
Preparing the planting medium for citrus rootstock is done by filling polybags with soil that has been mixed with goat manure and husks, then planting the rootstock in the prepared planting media (Balijestro, 2020b).

The success of Pontianak Siamese citrus fruit production which has succeeded in improving the welfare of agribusiness actors in Sambas Regency, has not been followed by the management of citrus plantations which should be balanced with intensive maintenance. The negligence of citrus agribusiness actors in Sambas Regency in managing citrus plantations, causes a decrease in productivity and productive citrus area.
Data on citrus plantations in Tebas District, Sambas Regency, which has the largest plantation in Sambas Regency in 2014 was reported as covering an area of 4,072 hectares, but in 2016 1,230 hectares changed functions, so the current area is 2,842 hectares. The decrease in planted area was mainly due to less intensive management, including suboptimal land management and the presence of CVPD disease caused by the bacterial pathogen Liberibacter asiaticus.

The decline in the area of citrus plantations that occurred in Sambas Regency has encouraged related institutions together with agribusiness actors to try to revive the glory of Pontianak Siamese oranges in Sambas Regency.

CONCLUSION

Based on the description of the results and discussion, it can be concluded as follows: (1) the management of the production process of tangerines explains that the production process or cultivation of tangerines, namely planting oranges, fertilizing tangerine trees, embroidering tangerine trees, pruning tree branches tangerines, installation of mulch on citrus mounds, thinning of tangerines, and sanitation of tangerine fields; and (2) management of the supply of tangerine inputs, including preparing enteres or plant scions and potting polybags or preparing planting media for citrus seed rootstock.

REFERENCE


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