Vol 6 No 3, September 2022
ABDI DOSEN
Jurnal Pengabdian Pada Masyarakat
pISSN: 2614-6509
eISSN: 2620-5156

TRAINING TECHNIQUES FOR CULTIVATION OF THE SAME PLANTS (ANTHOCEPHALUS MACROPHYLLA) IN URSANA HAMLET, HONITETU VILLAGE, INAMOSOL DISTRICT, SERAM REGENCY, WEST MALUKU

Johan Markus Matinahoru
Jurusan Kehutanan, Fakultas Pertanian, Universitas Pattimura
Jl. Ir. M. Putuhena, Kampus Poka, Ambon 97233, Indonesia
johanmatinahoru@gmail.com

Abstract

Wood originating from Indonesian forests is recognized for its high quality, both as building materials and industrial raw materials. To get quality wood it takes a long time to replace trees that are cut down for at least 15-20 years. The rate of reduction of trees in forests is not balanced with their growth, so forest areas in Indonesia are shrinking rapidly from year to year. To compensate for the increasing demand for wood, wood plants are needed that can produce wood quickly. Jabon Merah or Samama (Anthocephalus macrophyllus) is a fast-growing local plant species with a wide spectrum of uses. In several places in Indonesia, this species has begun to be developed and planted by the community. The Samama plant has been cultivated as a trading commodity on a wide scale, starting from the procurement of seeds, nurseries, plantations, wood, and processed products. Samama plants, apart from being used for the development of Industrial Plantation Forests (HTI), can also be used for reforestation and reforestation programs as well as another social forestry. Samama's growth productivity is very high, namely: the increase in the volume of wood above 20-25 m3 / ha/year for 6-8 years. The increase in height of the samama tree every year reaches 1.5 meters, with an increase in trunk diameter of 5 cm/year. This means that in 15 years with fertile soil conditions and good cultivation techniques, samama trees with a height of 25-30 m and a diameter of 75 cm can be produced. The development of samama plants as community forests or customary forests will have economic prospects and market certainty in the future. Therefore, it is hoped that this training can encourage farmers to plant and develop samama crops to help their economy. If the samama plant is cultivated properly, in 1 ha of samama plantation for 15 years, it can generate an income of 3 billion rupiahs because the current market price for 1m3 of processed wood in the Ambon market is 3 million rupiahs.

Keywords: Samama Plant, Business, Management, Garden, Income

INTRODUCTION

Background

Jabon Merah or Samama (Anthocephalus macrophylla) is a fast-growing local plant with a wide spectrum of uses. In several places in Indonesia, this species has begun to be developed and planted by the community. The Samama plant has been cultivated as a trading commodity

http://pkm.uika-bogor.ac.id/index.php/ABDIDOS/issue/archive
Submitted: July-2022 Received: August-2022 Available online: September-2022

on a wide scale, starting from the procurement of seeds, nurseries, plantations, wood, and processed products. Apart from Industrial Plantation Forest (HTI) commodities, Samama is also prospective to be developed through community-based programs.

Several requirements for the suitability of plant species for the program can be met, such as their ability to grow quickly. Samama plants are also relatively easy to cultivate and can grow well in various types of soil. The straight, cylindrical stem shape, high self-pruning ability, fast defoliation, and free of branches are ideal for industrial purposes, but also suitable for intercropping. With this pattern, additional income or intermediate income can be obtained as long as the samama plant cannot be produced.

Things that are quite important in the development of species related to the community forest program are economic prospects and market certainty in the future. Economically, Jabon plant cultivation promises a pretty good profit if done seriously and correctly. According to Trubus (2010), the selling price of samama wood with the same diameter is more expensive than Sengon wood. In the future, the price is expected to continue to soar along with the increasing demand for wood and the large absorption of the timber industry in Indonesia.

A good Samama crop is productive, competitive, efficient, and can provide sustainable benefits. Good planting requires the application of intensive silvicultural principles such as the use of superior seeds resulting from breeding, environmental management, and integrated and balanced pest-disease control.

Partner Problems

There are three problems faced by the community of Dusun Ursana, Hunitetu Village, Inamosol District, and West Seram Regency as partners, namely: (1) low knowledge of how to cultivate the samama plant (Anthocephalus macrophylla), (2) the community does not understand how to cultivate the samama plant to increase the value of the plant. economy, and (3) the unavailability of quality samama plant seeds.

METHOD

The methods used in this training are lectures and discussions as well as direct training in the field. Lectures and discussions are carried out by the facilitator delivering training materials for approximately 2 hours followed by discussions between participants and facilitators as well as between participants and participants. Then the follow-up practice in the field, namely (1) separation of seeds from fruit, (2) provision of germination media, and planting practices in the field. Furthermore, after the practice of planting in the field, an evaluation of the results of the training was carried out for each participant by answering evaluation questions that had been prepared as test material for the participants' understanding and ability in participating in the training. Examples of evaluation questions are as follows:

Instructions: Choose the correct answer and cross it with an (X).

1. Do you know the samama plant?
   (a). Yes (b). Not
2. What are the main characteristics of the samama plant?
   (a). Green plant leaves, (b). Red plant leaves
3. What are the characteristics of ripe samama fruit?

(a). Black, (b). Green color, (c). Brown

4. What soil media is suitable for the germination of samama seeds?
   (a). Black soil, (b), River sand soil add compost, (c). Sandy soil from the sea added compost.
5. What are the main requirements for a good medium for samama seed germination?
   (a). The soil media needs to be mashed by sifting and then roasting on fire for 30 minutes, (b). The soil media does not need to be sifted, but it needs to be roasted on the fire for 30 minutes, (c). The soil media needs to be mashed by sifting, but it doesn't need to be roasted on fire for 30 minutes.
6. What should be done to maintain the moisture of the soil media during the germination process?
   (a). Use of clear plastic hoods, (b). Not using a mask, (c). Watered directly with water every day.
7. When is the best time for the process of weaning samama plant seeds?
   (a). 1 month, (b). 2 months, (c). 3 months.
8. When is the best time to plant seeds of samama in the field?
   (a). Summertime, (b). At the beginning of the rainy season, (c). During rainy season
9. What is the most suitable spacing in the field for samama plants?
   (a). Distance 3 x 3 m, (b). Distance 4 x 4 m, (c). Distance 5 x 5 m
10. When do we have to do the same plant seeding by plucking?
    (a). When there are enough natural samama plant seedlings available in the field, (b). When there is no fruiting season for the samama plant, (c). When enough seedlings are available in the field according to the required size.

Furthermore, if there are participants who have more than 70% correct answers, the participants are considered to understand and can follow up on the results of the training well.

PROGRAM REALIZATION

1. Seed Preparation Technique

Seed is one of the important factors supporting the success of plant development. The quality of the plant from a crop depends on the quality of the seeds used. To get a good crop, seeds of good quality must be used. Good seeds are seeds that have good genetic, physical, and physiological qualities. Genetically quality seeds are superior seeds that come from seed sources of clear origin with a high level of productivity and adaptability.

1.1 Seed tree selection

To obtain quality seeds, it is recommended to determine seed trees with the following criteria: (a) trees with a diameter of more than 35cm and a good and lush title, (b) free of pests and diseases, (c) have experienced fertilization more than three times. Therefore, farmers are advised to find and select seed trees according to the above criteria if the seeds must be collected from natural stands. But if there is a seed source garden that already has a seed certificate, the seeds can be obtained through the seed source garden.

1.2 Separation of seeds from the fruit

When the fruit is harvested from the seed tree, it is advisable to separate the seeds from the fruit using a seed separation technique, namely the dry technique and the wet technique. The procedure for dry separation is as follows: (1) Ripe samama fruit that has been harvested or collected, then cut into smaller sizes to make it easier to dry, (2) Dry in the sun for approximately 2 days. Do not dry for too long because it will reduce the germination of the seeds, (3) The dried samama fruit pieces are then crushed so that they can be filtered to separate the seeds from the flesh, (4) The pulp powder containing the seeds is then filtered to separate the seeds from the flesh. , (5) The filtered seeds are then packed in plastic and stored in the refrigerator or directly sown. The wet separation method is: (1) Split the samama fruit into four parts and separate the middle part of the fruit that does not contain seeds, (2) The fruit containing seeds is put into a container containing water and then soaked for one night or until the fruit is soft, (3) The soft fruit is then crushed into a pulp by squeezing it so that it is easily filtered to separate the seeds from the flesh, (4) The crushed fruit is then filtered using a fine eye sieve to separate the seeds from the flesh, (5) Seeds The results of the filtering are then dried by airing them on newsprint overnight, then packaged in plastic and stored in the refrigerator or directly in seedlings.

1.3 Seed germination

Seeds that have been extracted or separated from the fruit are then subjected to a seed germination process, namely (1) preparation of germination media by providing a mixture of sandy soil and compost media in a ratio of 1:1, (2) the sprouting media is then fried or heated in a frying pan in a frying pan. fire with a temperature of approximately 100oC for 30 minutes, (3) the media is cooled and doused with water until it is saturated, (4) the seeds are placed on the media in a 40x50 cm germination tub, (5) the seeds resulting from sowing are then covered with clear plastic and tightly tied, (6) the seeds are left until sprouts appear and at the age of 15-30 days.

1.4 Weaning of seedlings

Sprouts that are 2 months old are then weaned or transferred to polybags. As long as the sprouts are in polybags, it is necessary to water them every day, eradicate pests every month using seven 85, and also be assisted with NPK fertilization every 3 months at a dose of 2 grams per tiller.

2. Seedling Maintenance Techniques In Nurseries

2.1 Watering

Watering is done 2 times a day, namely in the morning at 08.00 – 09.00 and in the afternoon at 16.00 – 17.00, especially during the summer. If the nursery is carried out in the rainy season, it is recommended to water it once in 10 days to avoid the death of the seedlings due to fungal attacks.

2.2 Eradication of pests and diseases

In general, pests that attack plants in the nursery are leaf-eating caterpillars of the order Coleoptera. For the eradication of this pest commonly used sevin 85A. while the disease that

often attacks the samama plant is leaf rust disease and eradication and prevention are usually carried out with Antracol 70 WP.

2.3 Weed control

Weed control in the nursery can be done by mechanical means, namely by removing weeds that grow in polybags in the nursery.

2.4 Fertilization

As long as the plants are in the nursery, it is recommended to apply NPK fertilization at a dose of 2 grams per plant every 3 months.

3. Planting and Maintenance Techniques in the Field

3.1 Land clearing

Land clearing activities are carried out in the summer by clearing and clearing the land. For effectiveness and efficiency, it is recommended to clear land using the planting path method to save costs and energy.

3.2 Provision of planting ponds

Procurement of planting ponds is carried out by measuring the spacing of 3x3 meters, then the pond is dug with a size of 40x40cm. This must be done at least 1 month before planting. In each planting pond, sticks are prepared to make it easier during the planting process in the field.

3.3 Planting

Planting in the field is recommended to be done at the beginning of the rainy season or during the rainy season so as not to cause the death of tillers due to lack of water and temperature pressure from the sun. Planting is done by filling each planting pond with 1 tiller.

Figure 1. The process of making ponds and irrigation (a, b, c) and planting (d, e, f) in the field

3.4 Maintenance

Field maintenance is carried out by cleaning weeds every 6 months of the age of the plant in the field, namely by cutting weeds using a machete or sickle at a distance of 2 meters from the plant. Furthermore, eradication and prevention of pests and diseases are recommended to be carried out every 3 months of the age of the plant in the field. While fertilization with NPK is recommended to be done every 3 months at a dose of 2 grams per plant until the plant is 1 year old in the field.

4. Evaluasi Peserta Pelatihan

The results of this training showed that 85.7% of participants were very familiar with the material presented during the training, by correctly answering the evaluation questions that had been prepared.

This training is then evaluated using the method of testing the level of participants' understanding of the material presented. 10 key questions have been prepared for the participants, and the following are the results of the analysis of the answers from the participants.

1. Do you know the samama plant?
   (a). Yes (b). Not
   In question No.1 the answer of all participants is point (a). This means that participants are familiar with the types of plants to be cultivated.
2. What are the main characteristics of the samama plant?
   (a). Green plant leaves, (b). Red plant leaves
   This question No. 2 is a further test of the introduction of samama plants and all participant's answer points (b). This shows that the participants have correctly recognized the samama plant.
3. What are the characteristics of ripe samama fruit?
   (a). Black, (b). Green, (c). Brown
   On question No. 3 12 participants answered point (a) and 2 answered point (c). This means that 85.7% answered correctly and only 14.3% answered incorrectly.
4. What soil media is suitable for the germination of samama seeds?
   (a). Black soil, (b), river sand soil with added compost, (c). sandy soil from the sea added compost.
   On question No. 4 10 participants answered point (b) and 4 participants answered point (a). This means that 71.4% of participants understand this question well.
5. What are the main requirements for a good medium for samama seed germination?
   (a). the soil media needs to be mashed through a sieve and then roasted on fire for 30 minutes, (b). The soil media does not need to be sifted but needs to be roasted on the fire for 30 minutes, (c). The soil medium needs to be mashed through a sieve but does not need to be roasted on fire for 30 minutes.
   The result of question No. 5 shows that 100% of the participants answered point (a), which means that the participants are very familiar with the requirements for making planting media for the germination process of the same plant seeds.

6. What should be done to maintain the moisture of the soil media during the germination process?
   (a). The use of a clear color plastic cover, (b). Not using a hood, (c). Watered directly with water every day
   The result of question No. 6 shows that 12 participants answered point (a) which means that 85.7% of participants understood how to maintain the same during the seed germination process.
7. When is the best time for the process of weaning samama plant seeds?
   (a). 1 month, (b). 2 months, (c). 3 months
   The result of question No.7 shows that 10 participants answered point (c) and 4 participants answered point (b).
8. When is the best time to plant seeds of samama in the field?
   (a). in summer, (b). at the beginning of the rainy season, (c). during rainy season
   The result of question No. 8 shows that 8 participants answered point (b), and 6 participants answered point (c). This showed that the participants had understood the appropriate time for planting samama seeds in the field, which was not in the summer. This condition is caused by plant growth at the beginning of its growth requiring a lot of water, and this can be overcome if planted at the beginning of the rainy season or during the rainy season.
9. What is the most suitable spacing in the field for samama plants?
   (a). Distance 3 x 3 m, (b). Distance 4 x 4 m, (c). Distance 5 x 5 m
   The results of question No.9 show that 11 participants answered point (a), and 3 people answered point (b). This shows that the participants have understood about the plant spacing that is suitable for samama plants is 3 x 3 m.
10. When should we do the same plant seeding by pulling?
    (a). When there are enough seedlings of samama plants naturally available in the field, (b). When there is no fruiting season for samama plants, (c). when sufficient seedlings are available in the field according to the required size. In the results of question No.10, 12 people answered point (c). This shows that the training participants understand the material presented, especially regarding the methods of seedling samama plants.

Thus, the outcome of this training is that the participants understand well the training material provided. Furthermore, the evaluation based on the results of the discussion in the question and answer session showed that there was a positive response from the participants with many questions appearing.

CONCLUSION

Based on the results of the training that was evaluated after the activity, showed that there was a change in the thoughts of the participants to develop samama plants because they had good market prospects in Maluku. Then the results of the evaluation of the participant's understanding of the training material showed that 85.7% of the participants answered the evaluation questions correctly, and this showed that the participants understood the training material presented. It is hoped that there will be a follow-up evaluation of the results of this

training so that it can be seen how many percent of participants are responsive in planting samama in the field.

REFERENCES

BPTH Sulawesi. 2011. Anthocephalus macrophyllus (Roxb.) Miq. Informasi singkat benih No 126. November 2011.

2017. Budidaya Jabon (Anthocephalus Macrophyllus) Balai Pengelolaan Hutan Wilayah Lebak Dan Tangerang Dinas Lingkungan Hidup Dan Kehutanan Provinsi Banten.

Halawane J.E, Hidayah. N.H, dan Kinho.J,2011. Prospek Pengembangan Samama *Anthocephalus macrophyllus* (Roxb.) Havil Solusi Kebutuhan Kayu Masa Depan. Badan Penelitian Dan Pengembangan Kehutanan Balai Penelitian Kehutanan Manado.

Martawidjaya A, Kartasujana, Kadir K, dan Prawira SA. 2005. Atlas Kayu Indonesia. Jilid II. Bogor: Badan Litbang Kehutanan, Departemen Kehutanan.