

## **Jajar Legowo Planting System with SRI Method (System of Rice Intensification) and the Use of Planting Tools for Caplak in Simatohir Village, Padangsidempuan District Angkola Julu**

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**Abstract.** This community service took place in Simatohir Village, Padangsidempuan District Angkola Julu, Padangsidempuan City. The implementation methods used are counseling methods, cultivation technique training, and mentoring. The approach method used is: a) Counseling about the application of SRI technology. b) Make demonstration plots or demonstration plots. c) Use of 2 : 1 legowo planting system using ticks. In the generative phase clearly visible results from the application of SRI are applied to the rice field cropping. There is a distance that facilitates the care of farmers, efficiency in the use of paddy water and the number of productive tillers is 25-40 tillers / clumps and the yield reaches 1337 tons with an area of 1000 square meters and this difference is very obvious when farmers do not use SRI , which starts from tillage which is only extracted, unbalanced fertilization, irregular irrigation, perforated plants between 10-20 plants with productive tillers only 15-23 tillers. This will have an impact on harvest yields which only reach 900 kg with an area of 1000 square meters.

**Keywords:** SRI, Jajar legowo, Caplak

**Abstrak.** *Pengabdian masyarakat ini bertempat di Desa Simatohir, Kecamatan Padangsidempuan Angkola Julu, Kota Padangsidempuan. Metode pelaksanaan yang digunakan adalah metode penyuluhan, pelatihan teknik budidaya, dan pendampingan. Metode pendekatan yang dilakukan yaitu : a) Penyuluhan tentang penerapan teknologi SRI. b) Membuat demplot atau petak percontohan. c) Penggunaan system tanam legowo 2:1 dengan menggunakan caplak. Pada fase generatif terlihat jelas hasil dari penerapan SRI yang diterapkan pada pertanaman padi sawah tersebut. Terlihat adanya jarak yang memudahkan perawatan bagi petani, efisiensi dalam*

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*penggunaan air sawah dan jumlah anakan yang produktif rata-rata 25-40 anakan/rumpun dan hasil panen mencapai 1337 ton dengan luasan 1000 meter persegi dan perbedaan ini terlihat sangat jelas ketika petani tidak memakai SRI, dimana dimulai dari olah tanah yang hanya di tajak, pemupukan tidak berimbang, pengairan tidak teratur, tanaman perlubang antara 10-20 tanaman dengan anakan produktif hanya 15-23 anakan. Hal ini akan berdampak pada hasil panen sipetani yang hanya mencapai 900 kg dengan luasan 1000 meter persegi.*

**Kata Kunci:** SRI, Jajar legowo, Caplak

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## 1. Introduction

Simatohir Village is a strategic area according to its location and geography, as well as the potential of the land which is very supportive for agricultural areas. The thing to be considered was the limited potential of its human resources and the low level of education and lack of knowledge in agricultural technology. Plus the use of agricultural equipment used is still limited as well as in land processing farmers still use hoes and plots.

In Simatohir Village, Angkola Julu Subdistrict, partners want to increase their business production through appropriate technology which so far they still use conventional technology, such as planting rice seeds with tight spacing and using poor quality seeds, not wanting to implement an agricultural intensification system, lack of the use of labeled seeds, and not applying balanced fertilization. This was carried out based on their assumption that the technology they had carried out for generations and the results were felt to be good enough so that they could become a life support for them so far.

However, with limited land ownership, most of them are still renting, causing rice to be harvested just enough to meet their own household needs (semi subsistence) and only a small portion is sold to the market because they still have to share with the land owners with a system for results and reused for further planting.

Judging from the technical aspects the problems that arise in Simatohir Village are that only a small percentage of farmers want to apply technology. Lack of capital and information on agricultural technology often results in farmers being reluctant to apply agricultural technology in their farming efforts. Capital limitations encourage most farmers to borrow from collection agencies so that sometimes the results of their efforts cannot be perceived by sipetani. Planting problems that are continuously planted with

paddy fields without rotation or rotation of crops so that it can cause pests and diseases are difficult to lose due to uninterrupted cycle of pests and diseases.

The problems faced by partners are limited knowledge of agricultural, technology controlled by farmers, the cropping pattern that is currently used is still the old cropping pattern, the tile system, because farmers do not want to change the old cropping pattern to the legowo system due to lack of information on the use of ticks to facilitate planting, because so far the legowo still uses rope so that it requires the use of more labor and of course adds to the cost of production, and unbalanced fertilization or only using urea which causes nutrients in the soil continues to decrease.

According to the problems, so the approach method that is done were counseling about the application of SRI technology, make demonstration plots or demonstration plots and use of 2: 1 legowo planting system using ticks [1,2]. The solutions offered are based on partner priority issues, namely: provide SRI program counseling, providing agricultural cultivation technology training, and providing training in making tools for ticks. The targeted output is in the form of methods, goods / products.

## **2. Method**

Based on the problems that have been raised, the implementation methods used are counseling methods, cultivation techniques training, and mentoring. It has been agreed with partners that the priority issues to be resolved are the problems that hinder the development of partner farming, namely:

1. The problem of lack of information and knowledge of agricultural technology,
2. Problems with planting rice seeds with tight distances,
3. The problem of using too much rice seeds,
4. Requires a long time when planting.

From the problems stated above, to achieve the expected goals, the approach method offered to solve these problems operationally can be described as follows:

1. Providing counseling and SRI technology training,
2. Providing training and counseling on appropriate agricultural technology.
3. Providing training in making tools for ticks.

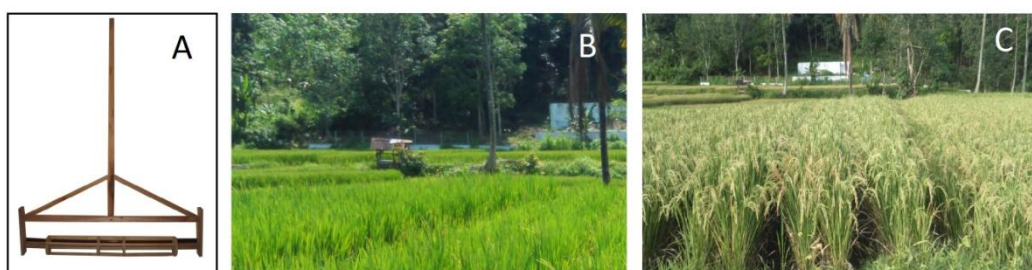
### 3. Result and Discussion

In this activity, partners were given counseling about the excess legowo row planting system is that farmers are easier to maintain rice fields and can increase the production of rice, the advantage of the SRI method is that by using the SRI method farmers can reduce the use of seeds, and the function of ticking planting aids is to make it easier for farmers to apply legowo cropping and reduce labor use. The different of conventional rice planting and SRI was shown in Table 1.

Assistance is carried out starting from the land processing stage, seed preparation and planting. Then the mentoring phase was continued by giving seeds labeled to the head of the farmer group while at the same time delivering the method of seed immunization.

#### Making caplak

The advantages of using ticks are the use of less labor, easier maintenance of plants (fertilization, weeds), and more production (due to more edge crops). At the age of 63 days, the results of the SRI application were clearly seen in the paddy fields. There is a distance that facilitates the care of farmers, efficiency in the use of paddy fields and the number of productive tillers is 25-40 tillers / clumps and yields reach 1337 tons with an area of 1000 square meters and this difference is very obvious when farmers do not use SRI , where starting from tillage that is only invited, unbalanced fertilization, irregular irrigation, perforated plants between 10-20 plants with productive tillers only 15-23 tillers. This will have an impact on sipetani yields which only reach 900 kg with an area of 1000 square meters.



**Figure 1.** Jajar legowo planting tool/caplak (A), 63 day rice plant (B), and 90 day rice plant (C)

**Table 1.** Differences in conventional rice planting systems and SRI [3]

No	Activity	Conventional System	SRI
1	Soil processing	Use tractor / cow power with the sequence of soil plowed, harnessed and leveled.	Using tractor / cow power with the sequence of soil plowed, harbored + on organic fertilizer, and leveled.
2	Seed selection	There is no specific technique for selecting seeds. The process of seed preparation before seeding is: 1. The seeds are soaked one day and one night, 2. The seeds are planted two days and two nights, and 3. The seeds are ready to be sown.	There are special techniques for selecting seeds using salt solution. The process of seed preparation before seeding is: 1. Good quality seeds are washed to remove sticky salt, 2. The seeds are pressed for two days, 3. The seeds are ready to be sown, and 4. Seed immunization.
3.	Nursery	Direct nurseries are made on paddy fields - Needs seeds $\pm$ 34-45 kg per hectare	In addition to making nurseries directly in the fields, it can also be done using containers. - Need for seeds $\pm$ 5-7 kg per hectare.
4.	Seed treatment before planting	Seeds ready for planting are removed and the roots are cleansed from the soil that is attached by using water. Furthermore, part of the seedling leaves are cut and divided per bond to be planted. Seeds are rested for 1 hour to 1 day before planting	The seeds are raised together with soil that is attached to the roots and directly planted in the rice fields.
5.	Planting	Seedlings that are ready to be planted are 18-25. One planting hole contains 5-8 plant seeds. Seeds planted "in", $\pm$ 5 cm (sometimes there are more).	Seedlings that are ready to be planted are 7-12 days after seedling the day after the seedlings. One planting hole contains 1 plant seed. Seeds shallow shallow, $\pm$ 2-3 cm.
6.	Irrigation	The land is flooded until it reaches 5-7 cm above the ground surface continuously.	Using intermittent irrigation patterns/interrupted irrigation patterns (rice fields are not continuously flooded). There is a good drainage system in each field of rice fields.

#### **4. Conclusion**

Based on the high enthusiasm of the partners involved in this activity, we can conclude that the IBM program activities of the SRI Method Jajar Legowo Planting System (System Of Rice Intensification) and the Use of Caplak Planting Tools in Simatohir Village Padangsidempuan District Angkola Julu in making ticks as a tool planting in the application of legowo planting system using SRI method gives a real and effective impact to all participants. Then through the practice of planting with the SRI method, participants were able to apply the knowledge and techniques acquired during the training in an effort to save the use of seeds and minimize the use of labor, and for partners will have skills in cultivation techniques with the use of appropriate technology to improve the welfare of the farmer groups. A similar program is expected to be carried out on different farmer groups in the village, especially in Padangsidempuan City. Thus, it is expected to provide wider benefits and support the national self-sufficiency program. In addition, by empowering the creativity of the community through such a program it is widely expected to improve the welfare of the community.

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