



EXPLORATION GERMPLASM OF TOBACCO IN EAST JAVA

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ABSTRACT

Conservation of germplasm is absolutely necessary in order to repair a plant species. The first step in order to get the desired genetic properties is by germplasm exploration. The aim of this research was to get the germplasm of tobacco in East Java. Exploration was conducted in July, August and September 2018 in East Java. Determination of appropriate areas for exploration based on the result of discussion and suggestions from Department of Agriculture and leader in that community. The activity of exploration was conducted by researchers by come in the crop location directly. The result of this exploration showed that; (1). There are 16 types of tobacco in 6 districts of East Java province, among others; Krosok, Kasturi, Burley, Benyak, Semporis, Moris DB, Besuki, Tambeng, Kayu Mas, Mersi, BB, K3 19, Jowo, Krempol Jati, Prancak 95 and Jepon Raja, (2). There are similar types of tobacco in 2 districts (Probolinggo and Jember), namely Kasturi tobacco. This is related to the spread of demand for tobacco processing companies and exporters, as well as the geographical location of the region.

Keywords: Exploration, Tobacco

INTRODUCTION

East Java is one of the tobacco-producing provinces in Indonesia. Tobacco growing area in East Java in 2015 reached 98.006 ha with production reaching 74.241 tons (Dirjenbun, 2015). Some of the areas in East Java that produce the best tobacco include; Madura, Jember, Situbondo, and Bojonegoro.

The optimal altitude for the growth of tobacco plants is 0 - 900 meters above sea level. Tobacco plants require temperatures ranging from 21-32.3 0°C. Poor plant growth and low productivity can occur if the irradiation is less (Matnawi, 1997).

Haryanto (2013) reported that low-intensity rain that occurred throughout the night caused damage to tobacco plants and farmers failed to harvest. Crop failures due to light and long-lasting rains also occurred in 2014 to 2016. Damage to tobacco plants due to high rainfall was also reported by the Indonesian Tobacco Community Alliance (AMTI). In 2010, as many as 737 hectares of tobacco land in Lumajang were damaged.

One of the efforts to reduce farmers' losses due to crop failure caused by erratic weather changes is by assembling new varieties that are tolerant of high rainfall. These efforts must be initiated by knowing the desired traits, particularly related to their genetic characteristics.

The first step in knowing genetic traits is to find out the source of the expected gene. Gene sources can be obtained by way of exploration of the desired plant. Knowledge of genetic diversity is the basic capital for plant development and improvement. The more germplasm collected, the more profitable the plant breeding program will be. Breeding is a multidisciplinary applied science (Gepts and Hancock, 2006) involving agronomy, cytogenetics, genetics, physiology, botany, pathology, entomology, molecular, biochemistry, bioinformatics, and statistics.

Germplasm is the basic raw material for plant breeding. In the germplasm stored various diversity of characteristics possessed by each collection number (accession). Sastrapraja (1992) states that germplasm is a substance contained in a group of living things which is a source of hereditary traits that can be assembled to create superior types or new cultivars.

METHOD

Exploration in this study was carried out for 3 months, namely from January to March 2018 in East Java Province. Exploration was carried out in collaboration with the

Department of Agriculture of Jember Regency. The determination of suitable areas for exploration is determined based on the results of discussions and suggestions from Department of Agriculture and local community leaders. Exploration activities were carried out by researchers assisted by technical personnel by visiting the location of the planting site. The germplasm is in the form of seeds, which are taken from the location, and then passport data is made (accession number/variety).

RESULT AND DISCUSSION

Exploration of tobacco plants was carried out in several districts which are centers of tobacco cultivation in East Java. The area includes; Jember Regency, Bondowoso Regency, Situbondo Regency, Probolinggo Regency, Bojonegoro Regency, Pamekasan Regency, Sampang Regency, Blitar Regency, Malang Regency, and Kediri Regency. The following is an accession of exploration results in East Java (Table 1.).

Table 1. Tobacco Cultivation Data in Jember Regency

Nomer Akses	Nama Akses/Varietas	Kabupaten
1.	Tc 8212	Blitar
2.	Gt	Blitar
3.	BP Jimanuk	Blitar
4.	Krempol kerep	Bojonegoro
5.	jowo Ros kerep	Bojonegoro
6.	K3 19	Bojonegoro
7.	H362	Bojonegoro
8.	Bojonegoro 1	Bojonegoro
9.	Semporis	Bondowoso
10.	Kristian	Bondowoso
11.	Coker 176	Bondowoso
12.	Sumoris	Bondowoso
13.	Mawar pink	Jember
14.	Benyak	Jember
15.	Kasturi	Jember
16.	Ts 54 +tkd	Jember
17.	K 99	Kediri
18.	Tc ml	Kediri
19.	H8 94	Kediri

20.	H a 320	Malang
21.	Sgr k99	Malang
22.	Nn 944	Malang
23.	Tkd + h363	Malang
24.	Hb 6-15	Malang
25.	Opot	Pamekasan
26.	Prancak 95	Pamekasan
27.	Kasturi kraksaan	Probolinggo
28.	Mersi	Probolinggo
29.	BB	Probolinggo
30.	Kasturi 933	Sampang
31.	K 326	Situbondo
32.	Bat 45	Situbondo
33.	Tc 918	Situbondo

Maesan district is the first area in Bondowoso Regency that developed a tobacco farming business. The first introductions were chopped tobacco of the types of Sompur and Moris. The planting of the two types of tobacco on land that was close to each other and lasts for years, is thought to naturally give rise to a new type which the local community calls Sompuris. In 1989, Balittas conducted a survey on the performance of tobacco plants on the islands of Java and Madura. The survey results showed that the cultivars that developed in Bondowoso Regency were Sompuris and Moris (Anonymous, 1989).

There are 2 areas in East Java that have the same type of tobacco grown by farmers. The similarity is closely related to the spread of demand for tobacco processing companies and exporters. The similarity is also related to the geographical location which is not much different in each region.

Efforts to manage and conserve biological natural resources cannot be separated from efforts to manage and conserve germplasm as carriers of the hereditary traits of these biodiversity species (Ja Posman Napitu, 2008).

CONCLUSION

Based on the results of tobacco exploration in East Java, it can be concluded that:

1. There are 16 types of tobacco in 6 districts of East Java province, among others; Krosok, Kasturi, Burley, Benyak, Semporis, Moris DB, Besuki, Tambeng, Kayu Mas, Mersi, BB, K3 19, Jowo, Krempol Jati, Prancak 95 and Jepon Raja
2. There are similar types of tobacco in 2 districts (Probolinggo and Jember), namely Kasturi tobacco. This is related to the spread of demand for tobacco processing companies and exporters, as well as the geographical location of the region.

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