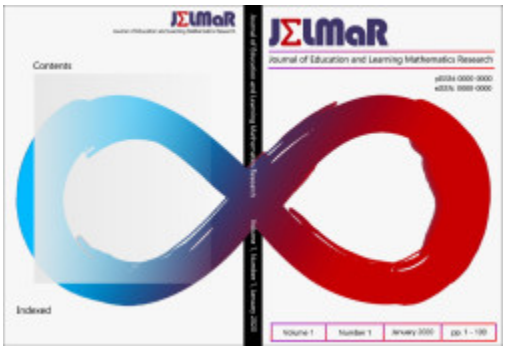

Journal of Education and Learning Mathematics Research (JELMaR)

Online ISSN : 2715-9787
Print ISSN : 2715-8535
Journal Homepage : http://jelmar.wisnuwardhana.ac.id/index.php/jelmar/index

Ethnomathematics Study in Tobacco Farming Mathematics in Balung Sub-District, Jember District

Laela Qomaria, Eric Dwi Putra, Indah Rahayu Panglipur

To cite this article Qomaria, L., Putra, E., & Panglipur, I. (2025). Ethnomathematics Study In Tobacco Farming Mathematics in Balung Sub-District, Jember District. *Journal of Education and Learning Mathematics Research (JELMaR)*, *6*(1), 35-46. https://doi.org/10.37303/jelmar.v6i1.3824

To link this article: https://doi.org/10.37303/jelmar.v6i1.3824

Publisher
Department of Mathematics Education,
Faculty of Teacher Training and Education,
Universitas Wisnuwardhana Malang

Journal of Education and Learning Mathematics Research (JELMaR)
Volume: 6, Number: 1, May 2025, pp. 35-46
p-ISSN: 2715-8535, e-ISSN: 2715-9787

Received: 18 March 2025 *Revised: 17 April 2025* *Accepted: 30 April 2025* *Published: 4 May 2025*

Ethnomathematics Study in Tobacco Farming Mathematics in Balung Sub-District, Jember District

[1*]Laela Qomaria, [2]Eric Dwi Putra, [3]Indah Rahayu Panglipur
Mathematics Education Study Program, Teacher Training and Education Faculty, PGRI Argopuro University of Jember, Indonesia
**Email: laelaqomariaa@gmail.com*

***Abstract**: Ethnomathematics is the science that relates how mathematics in culture and there is a relationship between mathematics and culture. The purpose of this study was to determine the traditional calculations that are contained in tobacco farming activities. This research uses descriptive research type with an ethnographic approach. The research subjects were tobacco farmers in Balung District, Jember Regency. The data collection methods used were interviews and documentation. This data collection process aims to identify and document the ethnomathematics applied by farmers in tobacco farming activities. Data analysis was conducted using a descriptive approach to describe and understand the application of ethnomathematics concepts in the context of tobacco farming. Through interviews with tobacco farmers, it was found that tobacco farmers' activities involve aspects of mathematics, namely counting, measuring and calculating.*
Keyword: ethnomathematics, mathematics, tobacco farming

INTRODUCTION

Mathematics is an indispensable science in real life both in the fields of science, social, medicine and commerce. Therefore, we always get math learning in various aspects of life (Yanti *et al*., 2022). The application of math should be relevent to everyday life. Solution to everyday problems related to math should be more focused (Akbar *et al*., 2024). Customs, knowledge, understanding, and insights that are inherited as human behavior in life from community life have a significant role in the development of students' level of thinking in mathematics (Anggara, 2019). Mathematical contexts in ethnomathematics can be used to encourage students actively investigate a topic or problem. This allows students to incoporate their environment and their knowledge creation experiences (Rosita *et al*., 2020). Learning that can be done especially in areas that have their own regional culture so that there is a connection between mathematics and culture known as ethnomathematics. Ethnomathematics research has been widely developed using local cultural sources in the region that grow and develop in society (Panglipur, 2024).

Ethnomathematics is a field that allows cultural concepst to be learned, understood, verbalized, mathematically comprehended, used to express and use mathematically described artistic ideas (Balila *et al*., 2023). By using ethnomathematics students will feel comfortable learning because learning mathematics does not only discuss numerical calculations but also learning releated to cultural aspecst. Ethnomathematics is a study of studying mathematics found in a culture that exists in the midst of society (Aini, 2021). This is in accordance with the statement of Putra *et al*., (2023) ethnomathematics is a field of study that examines and studies the relationship between mathematics and culture. Culture is something that we cannot avoid in everyday life, because culture is a whole and comprehensive unity of various manifestations produced and or prevailing in a community (Jumri & Murdiana, 2019). Culture is a habit that is passed down from one generation to the next.

One of the cultured lives that can be seen in the community is in farming activities (Juhria *et al*., 2015). Many farming activities contain mathematical concepts that are used traditionally, for example, community activities in carrying out tobacco farming activities are unwittingly related to mathematics, such as counting, counting and other mathematical concepts (Rahayu *et al*., 2018). Tobacco is the leading commodity of Jember Regency.

Through the potential of this tobacco plant, Jember Regency has long been famous and legendary as the "Tobacco City" as one of the largest tobacco producers and producers with quality products. Not only in the national market, even the city of Jember has long been recognized by European countries such as Germany (Herminingsih, 2014).

Based on the description above, it can be said that ethnomathematics can teach mathematics in culture. Many of the people of Jember whose daily routine is tobacco farming. One of the Jember areas is Balung District, Jember Regency. The knowledge of farming obtained is the teaching of previous parents, the knowledge is still used from the past until now. One of the cultural customs carried out in Balung Subdistrict is planting tobacco using traditional tools to measure planting distance, namely *kenco* (small rope). Cultural customs in this community greatly affect the level of community knowledge about the importance of culture in everyday life, especially in the concept of mathematical calculations.

The purpose of this study is to find out the traditional calculations contained in tobacco farming activities, so that people realize that in daily activities there are ethnomathematics studies that also need to be taught to children so that existing cultures can be preserved. In tobacco farming math, learning can be presented to help students learn number operation material and conversion of length and weight units. Thus, based on the above theories, this research will deepen the study of ethnomathematics in tobacco farming mathematics. The aspects of mathematics observed by researchers based on the opinion of Septia *et al* (2024) are counting, measuring and calculating.

METHOD

This research uses descriptive research with an ethnographic approach. Descriptive research is a research method that seeks to describe and interpret objects according to what they are (Zellatifanny & Mudjiyanto, 2018). The research subjects were tobacco farmers in Curahlele Village, Balung District, Jember Regency. The location was chosen with consideration because the majority of people work as farmers. In addition, the location is also affordable so as to facilitate research (Yanti *et al*., 2022).

The ethnographic approach is an attempt to simultaneously explain and analyze the culture of a group, society, or ethnic group. The process of research and understanding is based on way of researching social phenomena and human probelms. By using an ethnographic approach, we study the life and culture of a society or ethnic group, including its custom, laws, arts, religion, and others (Andarini *et al*., 2019). The purpose of using an ethnographic approach is to obtain comprehensive data based on intensive field studies.

This research uses data collection methods by conducting interviews and documentation.

1. Interviews were conducted to collect data on aspects of agricultural mathematics related to traditional calculations in tobacco farming activities. Interviews were conducted using an interview guideline sheet. Interview data were in the form of notes and interview transcripts. Data analysis was carried out descriptively, focusing on interpreting the meaning of the answers given, and linking to ethnomathematics theory and the research context.
2. Documentation was conducted to collect information in the form of photos, videos or writings. In addition, the documentation also contains an overview of the research location such as the shape of the rice fields, the amount of harvest, activities in farming and other data related to the research.

The data analysis technique used in this research is descriptive data analysis to describe and interpret the data obtained from interviews and documentation. This analysis involves drawing meaningful conclusions. Descriptive analysis is a data

analysis technique that is carried out by collecting data, classifying data, explaining and analyzing so as to provide information and a clear picture of the problem under study (Masyitah & Harahap, 2018). The results of the analysis will be presented in the form of an in-depth and detailed narrative supported by direct quotes from research participation.

RESULT AND DISCUSSION

The study of ethnomathematics in tobacco farming in Balung Sub- district, Jember Regency reveals how mathematical concepts are used naturally by farmers in various aspects. Starting from determining the need for seeds, planting distance, to estimating crop yields, all are done with a simple mathematical approach. This shows that mathematics is not only a part of formal education, but also practically applied in everyday life, especially in the agricultural sector. Agricultural activities that have long been carried out by the community for generations can be called a culture. Indonesian agricultural culture is included in a form of ethnomathematics, where every activity contains mathematics learning values (Supriatna *et al*., 2021).

Local culture plays an important role in these agricultural practices. Farmers rely on knowledge that has been passed down from generation to generation, such as using special methods to manage tobacco plants. In line with the statement of L. Aulia & Rista (2019) there is an ethnomathematics study on rice field farmers. Research on tobacco farming activities in Curahlele Village, Balung District, Jember Regency produced data related to the mathematical aspects of tobacco farming. There is the use of traditional techniques used that contain mathematical elements such as measuring planting distance, calculating the age of tobacco and calculating the estimated. The first discussion of the stages during the tobacco planting process in Balung District, Jember Regency, is as follows:

1.Land Processing

Cultivated land must be processed first so that the soil becomes fertile and ready for planting. Stages in land cultivation for tobacco cultivation include:

a) Land drying, by allowing the land to dry after the previous harvest, then cleaning up crop residues to remove pests and diseases.
b) Loosen the soil, using a tractor to ensure the soil has a good structure for tobacco root growth.
c) The making of *guludan* is divided into 2 types namely, *gulud semu* as a place for planting seedlings directly in the fields and *gulud jadi* as a rearrangement of the soil around the plants.

2. Seedling Selection and Sowing

The quality of the seedlings largely determines the yield of the tobacco crop. Therefore, seedling selection is done selectively with the following steps:

a) Selection of superior seeds: from variations that suit farmers' needs and market demand such as H382 tobacco.
b) Planting seedlings: This is done in a special place called a *trie* (nursery container) before the seedlings are transplanted to the main field.

3. Tobacco Planting

The planting process is carried out by paying attention to the spacing and planting pattern for optimal plant growth.

a) The spacing used is usually 40-45 cm between plants and 100-105 cm between paths/rows to provide sufficient growing space.
b) Planting is done using two methods, namely small shreds (seedlings are planted in *trie* containers first before being transferred to the rice field) and large shreds

(seedlings are directly planted in the rice field with a *guludan* process).

c) After planting, an initial watering (*kocor*) is done to help the seedlings grow.

4. Plant Care

In order for tobacco to grow well, weeds and nuisance plants must be cleaned regularly or commonly referred to as *matun*.

a) The first *matun* is done at the age of 20 days to remove weeds that can inhibit tobacco growth.
b) Follow-up *matun* is done once every 3 weeks using traditional tools such as small hoes or by hand.
c) *Gulud jadi* is done at 25-30 days of age to reorganize the soil around the plants so that they remain firm and get an optimal supply of nutrients.

5. Irrigation and Fertilization

Fertilization is done in several stages to ensure maximum growth of tobacco plants.

a) Watering is done using two methods, namely 1) *Kocor* where watering is done using a *paddle*, a tool used to water the plants one by one in each plant. 2) The *torap* method is irrigation carried out using a machine commonly called *sanci*, this irrigation is processed by taking water from the river or if the river is dry, drilling is carried out. This irrigation process is carried out according to weather conditions and plant needs.
b) Watering is done during the first 3 days of planting.
c) Fertilization and *torap* are done together 3 times at a distance of 5 days when the plants are 35-45 days old.
d) *Torap* irrigation was continued from 50-60 days of age without fertilizing at a distance of 5 days of irrigation.

The steps above reflect how tobacco farmers in Balung Sub-district indirectly apply mathematical concepts in their agricultural activities. Starting from the calculation of the number of seeds, planting distance, to fertilization and watering schedules. All these aspects show that mathematics is present in every stage of tobacco farming.

The following is a discussion of the three aspects of mathematics analyzed based on the results of interviews with tobacco farmers.

Math Aspects: Numeracy

Numeracy is the process of determining the number of objects by counting them one by one. This aspect is related to the concept of numbers and quantity, such as determining the number of seeds to be planted, determining the number of tobacco leaves, and determining the amount of fertilizer. The following is a description of counting aspects found in tobacco farming activities:

1. Determining the number of tobacco seedlings

Farmers determine the number of tobacco seeds by calculating that one hectare of land requires 2.000 seeds. There is a mathematical activity in determining the number of seeds needed. In this aspect, there is a number operation, namely division in determining the seeds if the farmer only has half a hectare of land, it will divide the number of seeds into 1.000.

Example:

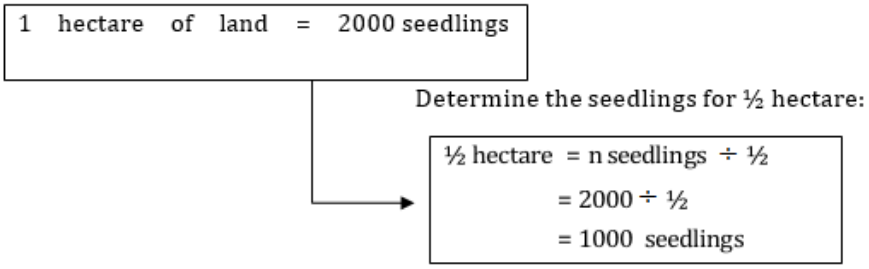

Figure 1. Mathematical Formula

2. Determining the amount of fertilizer

   One hectare of land requires 8 quintals of fertilizer. Fertilization (spreading) is done 3 times. The farmer's counting activity is done when determining the amount of fertilizer used at each stage based on the total need of 8 quintals of fertilizer for one hectare of land. This division involves the operation of division numbers which regulates the distribution of the amount of fertilizer.

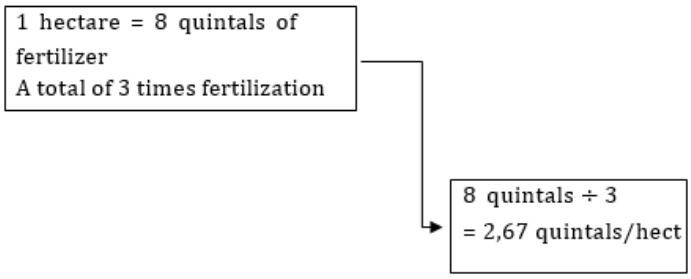

Figure 2. Mathematical Formula

3. Determining the number of tobacco leaves

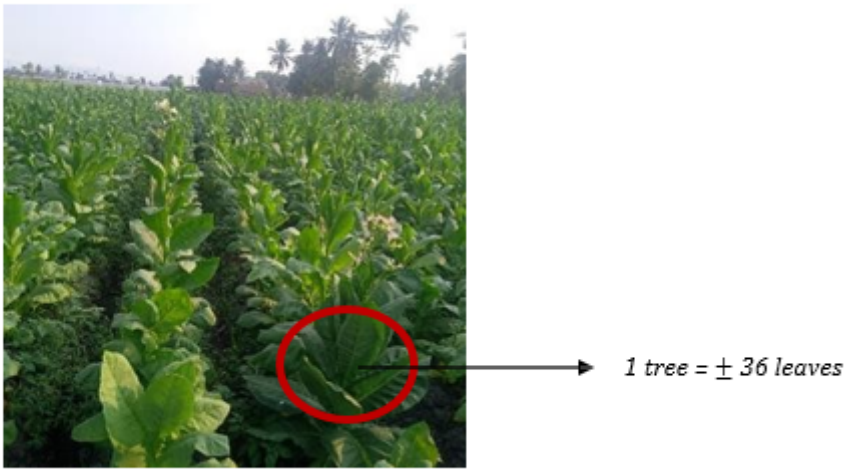

Figure 3. Type H382

The farmer chose type H382 as shown in Figure 1.3, because it produces a large number of leaves of approximately 36 leaves/tree and more profit. Numeracy math plays an important role, for example in counting the total yield of the crop, which involves multiplication operations.

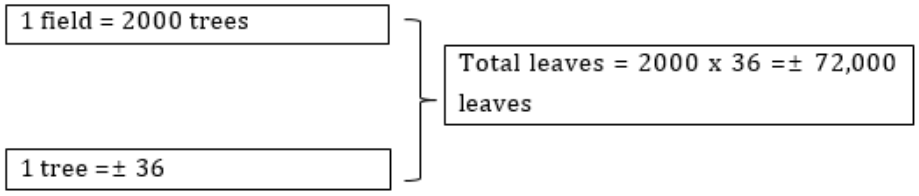

Figure 4. Mathematical Formula

Math Aspects: Measuring

Measuring in tobacco farming is the process of determining the distance between plants and measuring the weight of the harvest.

1. Determine the distance between plants

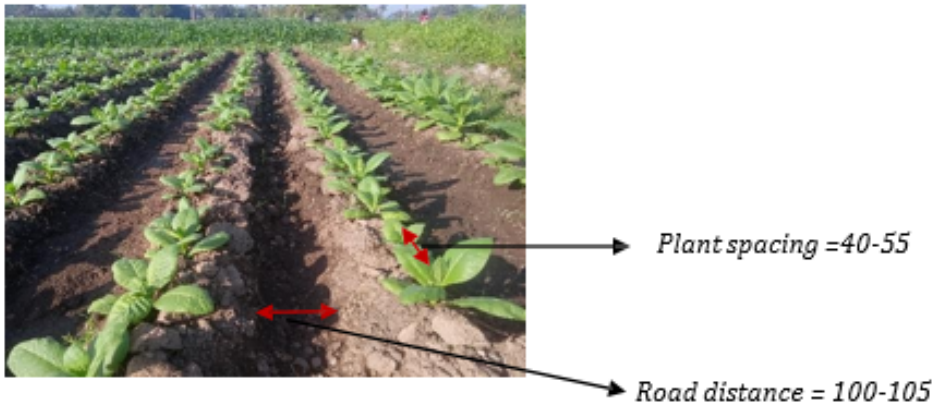

Figure 5. Tabacco Distance

Planting distance as shown in Figure 1.4 is measured with traditional tools, namely *kenco* and *preng* (bamboo). With a road distance = 100-105 cm and a planting distance of 40-45 cm so that the quality of tobacco produced is good. The measurements made by farmers involve the basic concept of length measurement which is very relevant to the mathematics aspect, especially in the material. Farmers measure the distance between rows and between plants in centimeters (cm). This process involves knowledge of length units and regularity in measurement. In this case, the *kenco* and *preng* function as measuring instruments that allow farmers to obtain consistent distances between plants and rows.

2. Estimating crop yields

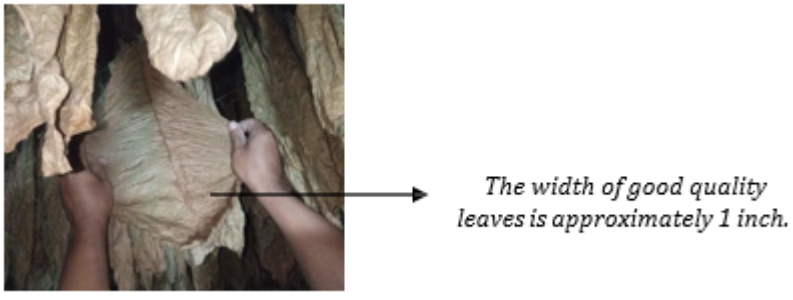

Figure 6. Good Quality Leaves

Good quality tobacco leaves as shown in Figure 6. will get a harvest weighing up to 2 tons, assuming each tree produces 1 kg of tobacco leaves. There is a relationship to the concept of measuring in mathematics regarding the conversion of units of measure and there is a multiplication number operation, the farmer multiplies the number of trees by the yield obtained in 1 plant tree. This involves calculating number operations and unit conversions between kg and tons

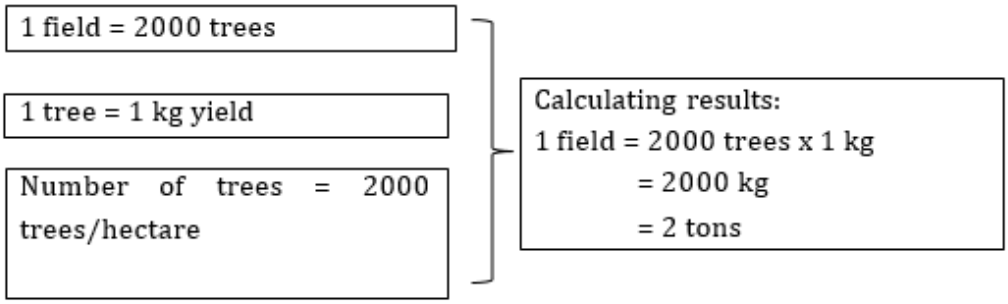

Figure 7. Calculating in Math

Math Aspects: Counting

Counting is the process of performing mathematical operations such as addition, subtraction, multiplication, or division to obtain a certain result. The counting aspect of tobacco farming includes calculating the amount of labour required, calculating the cost of the growing season, and calculating the time from planting to harvesting.

1. Manage the irrigation system Irrigation is done by two methods:
   1) *Leaking*, carried out 3 days prior to planting.
   2) *Torap* is started when the plants are 35-60 days old, 5 days apart. Watering adjusts to the weather, if the weather is rainy watering is not done. The application of this irrigation system can be related to mathematical aspects, especially in terms of calculating the distance of watering days.

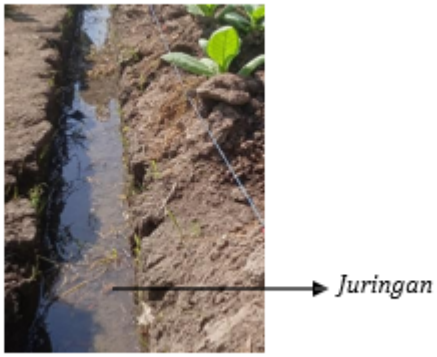

Figure 8. Torap Method

In the *torap* method, water is channeled into a drain as shown in Figure 1.8, irrigating every 5 days from 35 to 60 days of age.

The following is the calculation of the amount of watering during the torap metods:

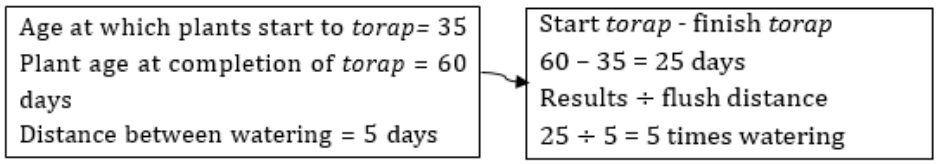

Figure 9. Calculating in Math

Thus, irrigation is done 5 times over a period of 35 to 60 days. This involves division and addition operations in integers.

2. Calculating labor

Harvesting is done with a work system of 14 people per day to harvest half a hectare of land. This activity involves counting skills using addition and multiplication operations.

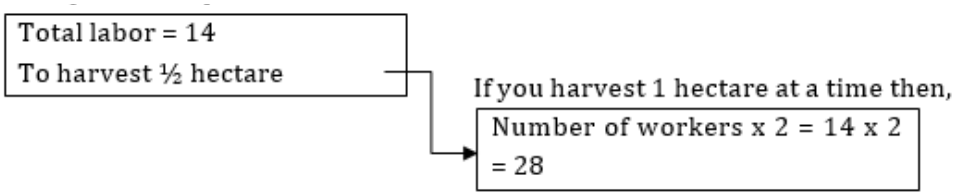

Figure 10. Calculating in Math

3. Calculating labor costs

Table 1. Labor Costs

Half-day fee	Cost per day
Rp 70.000	Rp 35.000

Workers often work for half a day only because tobacco plant guarding is only done in the morning or afternoon.

Table 2. Time at Work

Morning	Afternoon
06.00 - 10.00	12.00 - 16.00

There is a calculation process when farmers use the multiplication operation to determine the total cost required to pay for labor. In this context, multiplication is used to calculate the total cost based on the number of workers and the cost per person. Here is how the calculation works:

Table 3. Total Labor Cost

Total cost = number of workers x worker cost Total cost Total cost = 14 people x Rp 35.000 = Rp 490.000

4. Calculating planting to harvest time

The planting to harvest time lasts about three months. Leaf picking is done gradually, starting at the age of 55-60 days with a 5-day interval. Each time picking, 5 leaves are taken per tree with a total of 7-11 times picking during the harvest season. Before picking, feet are washed first or the bottom leaves of tobacco are removed. The math aspect involved is counting the number of leaves picked.

Table 4. Math Counting

1x pick = 5 leaves Number of trees in 1 hectare = 2.000 trees Number of trees in ½ hectare = 2.000÷ ½ = 1.000 trees

Table 5. Average Leaf Yield in ½ Hectare

Total picking = leaves picked x number of trees Total picking = 5 x 1.000 = 5.000 leaves/picking.

The names of the tobacco leaves to be picked according to the picking time can be seen in table 6.

Table 6. Name of Picking

Picking time	Leaf name
1st picking	*Koseran*
2nd picking	*Kak*
3rd picking	*T1*
4th picking	*T2*
5th picking	*T3*
6th picking	*T4*
7th picking	*T5*
8th picking	*T6*
9th picking	*TA*
10th picking	*Top*
11th picking	*Bedeng*

From the above discussion, it can be seen that tobacco farmers in Jember use various agricultural stages that have been used for generations to ensure proper spacing. Farmers' ability to calculate resource requirements determines the success of the harvest. Farmers calculate the number of seeds, fertilizers, labour, and harvest in a planned manner. For example, gradual fertilization based on the age of the plants ensures that the plants grow well without the risk of damage from over-fertilization. In addition, the estimation of yield per hectare using simple formulas such as the calculation of tobacco leaves, is proof that mathematics is used in everyday practice naturally.

Another interesting point is the highly organized harvest scheduling. Farmers understand that each tobacco leaf must be picked at the right age to maintain its quality. The naming of each picking stage, such as koseran to top, shows that farmers have a well-structured work system. These planting techniques are passed down from generation to generation. It is this combination of tradition and mathematical ability that makes tobacco farming in Jember an example of the application of ethnomathematics in real practice.

In the mathematical aspect of counting there is a mathematical concept when determining various kinds of numbers, this concept is found in learning mathematical operations of multiplication and division in the material of integers in grade 3 elementary school (Susanto et al., 2022), numbers up to 10,000 in grade 4 elementary school (Tosho, 2021), numbers up to 100,000 in grade 5 elementary school (Tosho, 2022a), numbers and their operations in grade 6 elementary school (Tosho, 2022b), and numbers in grade 7 junior high school curriculum 2013 (As'ari et al., 2017). These results are in line with the research of Chabibah et al (2025) this activity is often done by people to determine the number of objects and is related to the question "how many". This shows the similarity in the mathematical approach applied in agricultural activities.

The mathematical aspect of measuring there is the concept of distance measurement and unit conversion carried out by farmers traditionally. This is in line

with the research of Chabibah et al (2025) in agriculture, measurement activities are very diverse, such as the division of land for farm laborers and planting rice at a certain distance. The research was conducted on rice farming. This concept is found in mathematics learning which begins in the material of measuring length and weight in grade 3 SD (Susanto et al., 2022).

The mathematical aspect of counting is used in various important calculations that contain the number operations of subtraction, multiplication and division. This concept is in line with Abroriy's research (2020) the concept of addition, subtraction, multiplication and division of whole numbers. This concept is found in mathematics learning in the material of integers in grade 3 elementary school (Susanto et al., 2022), numbers up to 10,000 in grade 4 elementary school (Tosho, 2021), numbers up to 100,000 in grade 5 elementary school (Tosho, 2022a), numbers and their operations in grade 6 elementary school (Tosho, 2022b), and numbers in grade 7 junior high school curriculum 2013 (As'ari et al., 2017).

These aspects are part of the ethnomathematical practices that have developed over generations in the local agricultural culture. By understanding how farmers use these concepts in their daily lives, we can gain a broader and deeper insight into the application of mathematics in real contexts. These concepts can be used as inspiration and reference material for contextual learning (Aulia & Rista, 2019).

CONCLUSION

From the results of the research, the tobacco farming activities in Balung District, Jember Regency contain elements of ethnomathematics, among others, namely:

1. Numeracy Aspect: Farmers use numeracy skills to determine the number of seeds, determine the amount of fertilizer, and determine the number of tobacco leaves. This activity shows the application of multiplication and division number operations.
2. Measuring Aspect: Farmers use traditional tools such as *kenco* to determine planting distances and estimate crop yields by calculating using simple math. This shows the application of the concept of measurement in mathematics.
3. Calculating Aspect: Farmers calculate the watering distance in arranging the irrigation system, calculate labor, calculate the cost of the planting season, and calculate the planting to harvest time. In these activities there is the application of subtraction, multiplication and division number operations.

Traditional activities in tobacco farming show the application of various mathematical concepts such as number operations and weight unit conversion. This can be an inspiration in contextual learning to link mathematical theories with real life. Overall, tobacco farming activities in Jember reflect how mathematics is used practically in daily life, especially in traditional agricultural management.

Thus, it is important to further explore and document how ethnomathematics is applied in agriculture, especially in tobacco farming. This approach can be a bridge that connects math learning with real life, so that students can understand math concepts in a more relevant and contextual way. Schools in agricultural areas can also consider integrating local culture-based learning methods to get students more involved and understand how math plays a role in everyday life. Further research could explore how mathematical practices in tobacco farming can help increase agricultural productivity while empowering farmers more broadly. Thus, ethnomathematics not only provides benefits in the world of education but also contributes to the preservation of local wisdom and the improvement of community welfare.

ACKNOWLEDGMENTS

We would like to express our deepest gratitude to all those who have contributed to this research. Thank you to the tobacco farmers in Balung Sub- district, Jember Regency who patiently shared their experiences and knowledge, and provided valuable insights on how mathematics is present in every stage of tobacco farming. We also greatly appreciate the support from those who have provided permission and opportunities to conduct this research. Last but not least, we would like to thank the academics, mentors, and colleagues who have provided guidance, inspiration, and moral support throughout this research journey. All contributions made are very meaningful to us and this research. Hopefully, the results of this research can provide benefits for education, cultural preservation, and also for farmers who apply mathematics every day in their daily lives. Thank you for all your help and support.

REFERENCES

Abroriy, D. (2020). Etnomatematika dalam Perspektif Budaya Madura. *Indonesia Journal of Mathematics and Natural Sciences Education*, *1*(3), 182–192.

Aini, F. (2021). Kajian Etnomatematika terhadap Tradisi Weh-wehan di Kecamatan Kaliwungu Kendal. *Jurnal Pendidikan Matematika Raflesia*, *06*(01), 50–59. https://ejournal.unib.ac.id/index.php/jpmr

Akbar, A. M., Marsidi, & Putra, E. D. (2024). Exploring Ethnomathematics to Gayasan Tobacco Warehouse at Jember, East Java, Indonesia. *Journal of Education and Learning Mathematics Research (JELMaR)*, *5*(1), 15–26. https://doi.org/10.37303/jelmar.v5i1.132

Andarini, F. febri, Sunardi, Monalisa, lioni anka, Pambudi, didik sugeng, & Erfan, Y. (2019). Etnomatematika pada Alat Musik Tradisional Banyuwangi sebagai Bahan Ajar siswa. *Kadikma: Jurnal Matematika Dan Pendidikan Matematika*, *10*(1), 45–55.

Anggara, B. (2019). Desain Pembelajaran Matematika pada Konsep Dasar Peluang Berbasis Kearifan Lokal Indramayu. *JNPM (Jurnal Nasional Pendidikan Matematika)*, *3*(2), 223. https://doi.org/10.33603/jnpm.v3i2.2377

As'ari, A. R., Tohir, M., Valentino, E., Imron, Z., & Taufiq, I. (2017). *Matematika - Studi dan Pengajaran*. Pusat Kurikulum dan Perbukuan, Balitbang, Kemendikbud.

Aulia, L., & Rista, L. (2019). Identifikasi Konsep Matematika melalui Aktivitas Etnomatematika Petani Sawah. *Jurnal Pendidikan Matematika : Judika Education*, *2*(2), 110–117. https://doi.org/10.31539/judika.v2i2.857

Balila, J. N. I., Putra, E. D., & Lutfiyah. (2023). Students' Reflective Abstraction in Solving Ethnomathematics-Based Mathematics Problems. *Journal of Education and Learning Mathematics Research (JELMaR)*, *4*(2), 127–143. https://doi.org/10.37303/jelmar.v4i2.117

Chabibah, U., Supriyo, & Khoiri, M. (2025). Eksplorasi Konsep Matematika dalam Aktivitas Etnomatematika Petani Padi. *Jurnal Media Akademik (JMA)*, *3*(1).

Herminingsih, H. (2014). Hubungan Adaptasi Petani Terhadap Perubahan Iklim dengan Produktivitas Tembakau pada Lahan Sawah dan Tegalan di Kabupaten Jember. *Jsep*, *7*(2), 31–44.

Juhria, S. J., Horbi, & Oktavianingtyas, E. (2015). Etnomatematika pada Aktivitas Masyarakat Petani Madura di Kranjingan Sumbersari Jember sebagai Bahan Ajar Lembar Proyek Siswa. *Kadikma: Jurnal Matematika Dan Pendidikan Matematika*, *6*(3), 99–111.

Jumri, R., & Murdiana. (2019). Eksplorasi Etnomatematika di Bumi Sekundang Setungguan (Manna-Bengkulu Selatan). *Jurnal Pendidikan Matematika Raflesia*, *4*(2), 86–92.

Masyitah, E., & Harahap, K. K. S. (2018). Analisis Kinerja Keuangan Menggunakan Metode Rasio Likuiditas dan Profitabilitas. *Jurnal Akuntansi Dan Keuangan Kontemporer (JAKK)*, *1*(1), 33–46.

Panglipur, I. R. (2024). Analisis Bibliometrik: Trend Penelitian Etnomatematika di Jember pada Materi Geometri. *Prismatika: Jurnal Pendidikan Dan Riset Matematika*, *7*(1), 29–37.

Putra, E. D., Sullystiawati, L. H., & Sari, Y. I. (2023). Pendampingan Inovasi Pembelajaran Matematika SMP melalui Permainan Ular Tangga Berbasis Etnomatematika. *Dedication : Jurnal Pengabdian Masyarakat*, *7*(1), 119–128. https://doi.org/10.31537/dedication.v7i1.1034

Rahayu, D. P., Setiawani, S., & Murtikusuma, R. P. (2018). Etnomatematika pada Aktivitas Pasca Panen Tembakau Masyarakat Pendalungan dan Penerapannya sebagai Lembar Kerja Peserta Didik. *Kadikma: Jurnal Matematika Dan Pendidikan Matematika*, *9*(3), 85–96.

Rosita, R., Asfida, A., Annur, M. A., & Azis, A. (2020). Eksplorasi Etnomatematika pada Benteng Keraton Buton dan Implikasinya pada Pembelajaran Matematika. *Jurnal Akademik Pendidikan Matematika*, *6*(2), 86–90. https://doi.org/10.55340/japm.v6i2.260

Septia, T., Nuraini, A., & Wahyu, R. (2024). Eksplorasi Etnomatematika pada Aktivitas Masyarakat Petani di Kecamatan Gondanglegi Kabupaten Malang. *Jurnal Inovasi Pembelajaran Matematika: PowerMathEdu*, *3*(2), 253–262. https://doi.org/10.31980/pme.v3i2.1702

Supriatna, A., Imswatama, A., & Nurcahyono, N. A. (2021). Studi Etnomatematika pada Tebar Padi di Pawinian dalam Pertanian Masyarakat Kabupaten Bogor. *Jurnal Utile*, *VII*(1), 1–9.

Susanto, Kristiana, A. I., Fatahillah, A., Waluyo, E., Alfarisi, R., & Hobri. (2022). *Matematika untuk SD/MI Kelas III*. Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi.

Tosho, T. G. (2021). *Belajar Besama Temanmu Matematika untuk Sekolah Dasar Kelas IV Volume 2*. Pusat Kurikulum dan Perbukuan, Badan Penelitian dan Pengembangan dan Perbukuan, Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi.

Tosho, T. G. (2022a). *Belajar Besama Temanmu Matematika untuk Sekolah Dasar Kelas V Volume-1*. Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi.

Tosho, T. G. (2022b). *Belajar Besama Temanmu Matematika untuk Sekolah Dasar Kelas VI Volume-1*. Pusat Kurikulum dan Perbukuan, Badan Penelitian dn Pengembangan dan Perbukuan, Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi.

Yanti, S., Johar, R., & Suryawati, S. (2022). Kajian Etnomatematika dalam Kegiatan Petani Sawah di Kecamatan Montasik Kabupaten Aceh Besar. *Jurnal Ilmiah Mahasiswa Pendidikan Matematika*, *7*(2), 152–161.

Zellatifanny, C. M., & Mudjiyanto, B. (2018). Tipe Penelitian Deskripsi dalam Ilmu Komunikasi. *Diakom : Jurnal Media Dan Komunikasi*, *1*(2), 83–90. https://doi.org/10.17933/diakom.v1i2.20