

# E6

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## The level of understanding of plant physiology in caring for ornamental plants



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### ABSTRACT

This study aims to determine the level of understanding of plant physiology in caring for ornamental plants in the people of Sungai Penuh City. This understanding is related to the understanding of Plant Physiology. If the community already has an understanding of plant physiology, then the community can take advantage of ornamental plants such as greening their homes, increasing income, and being used as medicinal plants. The type of research used is quantitative research with a descriptive approach. The population and sample in this study were the people of Sungai Penuh City, amounting to 76 people. The instrument used is a test in the form of questions about people's understanding of plant physiology. Data analysis using SPSS and using the percentage formula. The results showed that the understanding of community plant physiology in caring for ornamental plants can be seen that 27 respondents scored "very high", 41 respondents scored "high", 6 respondents scored "medium" and 2 respondents scored "low" and none respondents who scored in the very low category. The average value for this variable is 75.8 (high).

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### INTRODUCTION

Plant physiology is defined as a science that studies the metabolic processes that occur in plants and cause plants to live. Plant physiology also discusses plant characteristics, namely chemical synthesis processes, climatic factors, and plant interactions with and supporting organisms that support plant growth (Linda, 2018). Plant physiology is the science that studies the complexity of the relationships between plants biological concepts (anatomy, morphology, biochemistry, ecology), so it is necessary good understanding of concepts to be able to solve related problems plant physiology (Adhani & Rupa, 2020).

Ornamental plants are types of plants that are cultivated because they have a beauty value in that part of the plant. Ornamental plants are types of plants that are often found in yards or yards



(Majanah, 2019). Ornamental plants are categorized as non-food horticultural plants (ornamental plants), whose cultivation purpose is to enjoy their aesthetic value. Each type of ornamental plant has its own uniqueness and beauty, by giving an attractive, beautiful, and interesting impression, both from flowers, leaves, and other plant parts. By cultivating ornamental plants, it means that we carry out an activity that develops ornamental plants starting from the process of planting, caring, to harvesting. (Vidya Fauzia Utami, Saidatul Ulfa, Zeni Tri Budiarti, 2019)

Understanding is defined as the ability to construct a meaning from something that includes ability understand, explain, conclude, see the relationship and apply what is understood into other circumstances and situations. Whereas understanding level is how much can someone catch meaning, explain, conclude, see relationships and being able to apply what which is understood into the state and other situations (Natali et al., 2017). Understanding of plant physiology is needed in caring for ornamental plants.

Cultivation of ornamental plants is the process of cultivating various plants that are widely used as decorations for both indoor and outdoor. Examples of ornamental plants are hajj ferns, roses, jasmine, fan palms, firs and so on (Elfarisna et al., 2021). The culture of caring for this ornamental plant has a relationship with the branch of plant physiology. Studies in plant physiology discuss the metabolic processes that occur in plants (Khairuna, 2019). If it is discussed in a small scope, the focus of the study of plant physiology is related to how human activities organize, manage, and care for plants, especially ornamental plants.

The use of ornamental plants by society is still hereditary from previous generations. But along with the times, society gain broader knowledge from various media. Knowledge of the importance of ornamental plants as medicine very traditional in society determine utilization by Public (Riani, 2009). The need for ornamental plants at home and elsewhere is very dependent on the conditions of the community in an area. The higher the level of public knowledge, the higher the understanding of the benefits of ornamental plants (Kartika, 2018). Based on research by Majanah on the Utilization of Ornamental Plants as Traditional Medicine. The results of the study show that the knowledge of the Sungai Kuruk community Seruway Aceh Taming is still low that is equal to 42.03% (Majanah, 2019). This is also reinforced by Stevanus' research on Community Perceptions Of Hydroponic Plants In Lotta Village, Pineleng District, Minahasa District. The results of the study stated people are in the category of hesitation in caring for plants, this means that people still do not understand how to take care of plants (Kaunang et al., 2016).

Based on this background and relevant research, the researcher will conduct research on The Level of Understanding of Plant Physiology in Caring for Ornamental Plants in The Sungai Penuh City Community.

## RESEARCH METHODS

### Research Design

This type of research is quantitative research with a descriptive approach. Using quantitative research with a descriptive approach because this research uses an instrument in the form of test questions for the level of understanding of community plant physiology and tries to describe the level of understanding in a broad, in-depth, and detailed manner.

### Population and Samples

The population in this study were people in several sub-districts in Sungai Penuh City, which based on initial observations by researchers cultivated many ornamental plants. Some of these districts include: Pondok Tinggi District, Hamparan Rawang, Full River District, and Sungai Bungkal District. The sample is part of the population that meets certain criteria (Wiratna, 2019).



The sample in this study was taken by probability sampling technique. The sample in this study amounted to 76 people.

### Instruments

The research instrument in this study was a test to measure the level of understanding of plant physiology in the community. Validity test, reliability test, discriminatory power, and difficulty index were analyzed using SPSS.

### Procedures

This study uses a test instrument in the form of questions related to public understanding of the understanding of plant physiology. Before the test questions are distributed, validity, reliability, discriminatory, and difficulty index tests are carried out to determine whether the test questions are suitable for use. The test was conducted on 76 people of Sungai Penuh city from several sub-districts, namely Pondok Tinggi District, Hamparan Rawang District, Sungai Full District and Sungai Bungkal District. After the test, the test results were analyzed using the percentage formula.

### Data Analysis

The validity test, reliability test, discriminatory power, and difficulty index were analyzed using SPSS. In this study, the analytical technique used is descriptive statistics using the percentage formula. The formula used is:

$$P = \frac{f}{n} \times 100 \%$$

Description:

P = Percentage

f = Respondent's Answer Score

n = Total Score

The interpretation of research data on the level of understanding of community plant physiology in caring for ornamental plants is grouped into 5 categories used, namely Table I.

**Table I.** Level Of Understanding of Community Plant Physiology in Caring for Ornamental Plants

Level (%)	Criteria
$80 \leq P < 100$	Very High
$60 \leq P < 80$	High
$40 \leq P < 60$	Currently
$20 \leq P < 40$	Low
$0 \leq P < 20$	Very Low

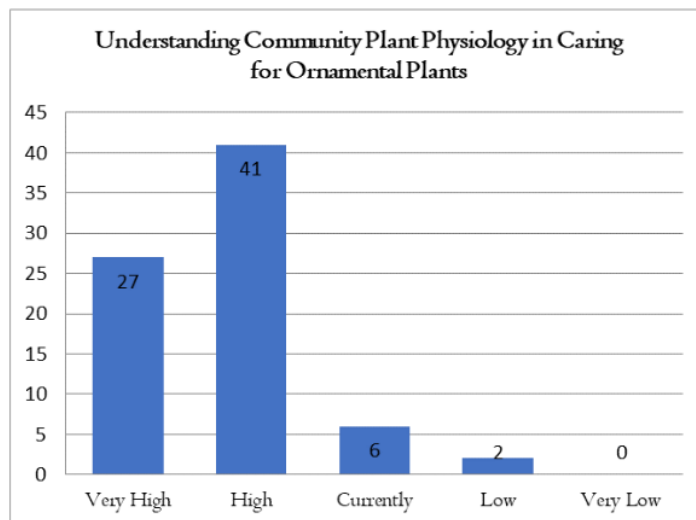
## RESULTS

This variable data collection was carried out by distributing questions to 76 samples taken at random. Research data can be seen in the following Table 2.

**Table 2.** Data on Understanding Community Plant Physiology in Caring for Ornamental Plants

Category	Number of Respondent's	Percentage
Very High	27	36%
High	41	54%
Currently	6	8%
Low	2	3%
Very Low	0	0%
<b>Amount</b>	76	100%

Based on the table above, for data on understanding community plant physiology in caring for ornamental plants, it can be seen that there are 27 respondents who scored "very high", 41 respondents scored "high", 6 respondents scored "medium" and 2 respondents scored "low" and none of the respondents scored in the very low category. The average value for this variable is 75.8 (high). The presentation of data classification levels of understanding of community plant physiology in caring for ornamental plants in the diagram is as Figure I.

**Figure I.** Diagram of Understanding Community Plant Physiology in Caring For Ornamental Plants

## DISCUSSION

This research was conducted using a correlational approach. Data collection was carried out on 76 respondents using a test instrument for the variable understanding of community plant physiology in caring for ornamental plants. Based on the data, it was found that the average understanding of community plant physiology in caring for ornamental plants was relatively high, this indicates that the people of Sungai Penuh City already have a good understanding of plant physiology in caring for ornamental plants. In caring for ornamental plants, understanding plant physiology has an important role because plant physiology is the study of metabolic processes that take place in plants (Istirochah, 2019).

The need for ornamental plants is indeed is a secondary need, but has been socialize. This plant is needed lower class society above, although the purpose of use is different, some are just for greening house and so on. Apart from private house, ornamental plants are also needed in

offices/agencies, shops, hotels and etc (Lakamisi, 2010). Ornamental plants become a great collection people are interested in starting from the shape and colors that vary, then the plants that are easy or hard to find, until small and large plants (Linda Astriani, Munifah Bahren, Taufik Yudi Mulyanto, 2020).

Ornamental plants can also improve the community's economy, for example, the trend of market demand for ornamental plants such as demand that is relatively still not too fluctuating. Relatively steady demand in general found in the types of ornamental plants needed for weddings or sacred flowers with fragrance typical like jasmine and tuberose (Desmawati, 2019). Ornamental plants not only play a role in the development of the agricultural sector, but also play a role in the development of the agro-tourism sector in Indonesia. The development of agro-tourism that utilizes agriculture as a tourist attraction makes the ornamental plant business have good prospects for development (Noviana et al., 2014). Besides that, many types of ornamental plants have medicinal properties such as expressed "Jasmine plant too has health benefits, namely to treat inflammation of colored eyes red, overcome bee stings, treat shortness of breath, can stop milk production excess, can relieve swelling due to beast bites, and overcoming insomnia". Hibiscus plant also has the benefit of overcoming pain swollen teeth and gums, overcoming intestinal worms, medicine for rheumatism, urine stone, relieve ear inflammation, shrink boils, and treat hemorrhoids (Mulyani, 2012).

For example, *Sansevieria* ornamental plants or mother-in-law's tongue is an ornamental plant, has other benefits that is, it can absorb harmful pollutants that is in the air. The plant can absorb carbon monoxide, carbon dioxide, cigarette smoke and other toxic gases. By planting *sansevieria* in Green Open Space, di along the road with heavy traffic as well as industrial areas, air pollution (Rosha et al., 2013).

Lack of knowledge and use of ornamental plants as medicine tradition makes people still tend to use synthetic drugs which is more practical and has a fast reaction. Therefore, people are used to using synthetic drugs and not motivated to seek information and extensive knowledge of drugs traditional. It is necessary to understand the public's understanding of plant physiology in order to know the benefits of ornamental plants. However, in this study, people's understanding of plant physiology is quite good.

Low community knowledge in caring for plants one of the decorations is caused by the level of education is still very low (Majanah, 2019). Education is one of the important factors to create quality human resources in society in a particular area, because human capital as the main capital in planning, organizing, directing and driving factors in carrying out the work (Remaja et al., 2017).

Solution offered for problem solving are 1) Improved ability in multiplication of various types of ornamental plants and fruit plants by generative propagation and vegetative 2) Management of garden management, starting from determining maintenance schedules plants and proper garden care methods. And also understand the physiology of ornamental plants that are planted (Apriyanto et al., 2020).

## CONCLUSION

Research result level of understanding community plant physiology in caring for ornamental plants, it can be seen that there are 27 respondents who scored "very high", 41 respondents scored "high", 6 respondents scored "medium" and 2 respondents scored "low" and none of the respondents scored in the very low category. The average value for this variable is 75.8 (high). The benefit of research is that the community can use knowledge or understanding of plant physiology to cultivate plants that are around them. The higher the level of public knowledge, the higher the understanding of the benefits of ornamental plants. If the community already has an understanding of plant physiology, then the community can take advantage of ornamental plants such as greening



the house, increasing income, ecotourism, and being used as medicinal plants to reduce the side effects of using synthetic drugs.

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