



Agriculture Development Strategy Shallots (*Allium Ascalonicum L*) in Kota Padangsidimpuan

Ali Amran Jambak¹, Sutan Pulungan^{2*}, Erwin Syah Lubis³, Rasmita Adelina⁴, Juli Yusran⁵

^{1,2,3,4,5}Agrotechnology study program, Master program, Postgraduate, Graha Nusantara University, Padangsidimpuan, Indonesia

*Corresponding author: sutanpulungandp2017@gmail.com

Abstract

This study aims to develop a strategy for the development of shallots in Padangsidimpuan. SWOT analysis was used in this study. This is a SWOT matrix that produces four alternative strategies. The Thsi Swot analysis describes the opportunities and external threats faced by the company. The paper also describes its strengths and weaknesses. The results show that the strategy to increase onion production in the study area is an aggressive strategy and SO strategy (Strengths – Oppurtunities) by using the strength and taking advantage of opportunities with some activities as follows: (1) increasing the stimulus to develop the onion for the farmer and the group of farmers in Padangsidimpuan. (2) Increase the quality of the farmer by developing shallots, such as providing training and technical guidance. (3) Improving the mentoring and supervision of farmers through formal activities. (4) Formulate a system of government policies or regulations that can create a conduit atmosphere and business climate in the cultivation and trading of shallots.

Keywords: Development, Strategy, SWOT, Shallots, Strength, Weaknesses.

1. INTRODUCTION

Shallot (*Allium ascalonicum L*) is a leading vegetable commodity that has long been intensively cultivated by farmers. This vegetable commodity is included in the non-substitutable spice group, which functions as food flavoring and traditional medicine. This commodity is a source of income and employment opportunities that contributes significantly to the economic development of the region (Balitbang Pertanian, 2005).

Shallots are among the most consumed vegetable commodities in Indonesia. According to the results of the September 2021 National Socio-Economic Survey (Susenas), the per capita consumption of shallots reached 2.49 kilograms. According to data from the Director General of Dukcapil at the end of the second semester of 2022, the population of Indonesia is 273,879,750, so the need for shallots per year is 681,980 tons. In Padangsidimpuan, shallot consumption reached 566.9 tonnes per year while total production reached 545.4 tonnes (BPS, 2023).

During the last seven years, shallot planting has been conducted in the Padangsidimpuan City area. However, in terms of land potential, this commodity planting is more concentrated in Padangsidimpuan Angkola Julu District, Padangsidimpuan Hutaimbaru District,

History:

Received : September 03, 2025
Revised : October 06, 2025
Accepted : October 24, 20245
Published : November 17, 2025

Publisher: Inovasi Pratama Int. Press

Licensed: This work is licensed under a Creative Commons Attribution 4.0 License



Padangsidimpuan Batunadua District and Padangsidimpuan.

To fulfil local needs and reduce the dependence of the Padangsidimpuan city area on supplies from outside the region, the shallot commodity is a horticultural commodity developed by the government as a form of diversification of agricultural commodities. This development is due to the high demand of the community for this shallot commodity so that it is influential in contributing to the formation of general inflation/deflation. Price fluctuations due to dependence on the supply in other regions are one of the factors that often occur.

The results of shallot commodity production by Padangsidimpuan city farmers still have open market opportunities. The need for the southern part of the Tapanuli region will be a burden on the city of Padangsidimpuan, considering its status as a buffer area for several neighboring districts. Fulfilment of local needs (region) is a priority in addition to other regions, if there is a very large production margin.

A development strategy is necessary to avoid spending too much capital on an activity that is unprofitable. A development strategy incurs costs, but these costs are small compared to the risk of failure. The existence of this feasibility study allows the level of profit to be known, waste of resource costs to be avoided, and actions that can be profitable to be chosen among existing business alternatives (Heryanto, 2022). In addition, (Alamsyah, et al., 2023) suggested that farm income is described as the remaining reduction in farm income values with costs incurred, where income is the result of multiplying the total production amount by the price of the product, while expenses or farming costs are the value of the use of production facilities and others.

1. Review of Shallots

The shallot plant is thought to originate from Central Asia, especially Palestine and India, but some estimate its origin to be Southeast Asia and the Mediterranean. Another opinion states that shallots originated in Iran and the northern mountains of Pakistan, but there are also those who say that this plant originated in West Asia and then developed into Egypt and Turkey (Wibowo, 2005).

Morphologically, shallots can be divided into roots, stems, leaves, flowers, fruits, and seeds. The roots of shallot plants consist of (*primary roots*) that function as a place to grow (*adventitious roots*) and root feathers that support the establishment of plants and absorb water and nutrients from the soil. Roots can grow to a depth of 30 cm, are white in color, and, if squeezed, have a pungent smell like the smell of shallots (Pitojo, 2003).

Shallot flowers consist of a flower stalk and a flower cluster. The base of the flower stalk at the bottom was slightly inflated and the upper stalk was smaller. At the end of the stalk, there is a head-shaped and slightly pointed part, which is a flower cluster that is still wrapped in shrimp. After the shrimp is opened, the cluster gradually appears, and flower buds appear with a stalk size of less than 2 cm (Sumadi, 2003).

The best area for shallot cultivation is a sunny dry climate with high temperatures. Four open, non-fog, and light winds. Areas that receive full sunlight are also very favorable, and it is better if the duration of sunlight is greater than 12 h. Keeping this in mind, in sheltered places, it can cause poor tuber formation and small size (Wibowo, 2005).

Shallot plants grow better in soils that are loose, fertile, and contain large amounts of organic matter. Suitable soils for shallot growth include dusty loam and sandy loam; the most important thing is that the groundwater does not stagnate. Good drainage must be performed on land that is often flooded. The degree of soil acidity (pH) was between 5.5 – 6.5 (Sartono, 2009).

2. Definition of Strategy and Development Strategy

Strategy places the parameters of an organization in terms of defining the place of business and the way in which the business competes. Strategy indicates the general direction that an organization (company) intends to achieve its goals. It is both a grand plan and an essential plan. Every well-managed organization has a strategy, even if it is not explicitly stated. According to Chandler (1962), strategy is the establishment of the long-term goals and objectives of a

company, and the course of action and allocation of resources necessary to achieve those goals and objectives.

There are four types of strategies that are commonly used by management in their planning: (a) corporate strategy is about the overall purpose of the organization, the company's mission, and vision of what will happen in the future. This strategy encourages us to be in an area where the company should be. (b) Business strategy generally refers to a specific business unit, which can simply determine where and how to compete in the market and business model, and the resources needed. (c) Market strategy is a core part of business strategy, and creates a higher domain that influences the direction, focus, and priorities of the business. (d) Marketing strategy becomes more functional and operational, specifying how brands, products, channels, and communications should be built and executed to achieve success.

To understand the emergence of strategy, it is worth reviewing some of the main sources of strategy, namely: (a) Originated: the most logical source of strategy or policy is top management, who settle it as a guide for subordinates in the implementation of their tasks. (b) Appealed: In practice, almost all policies and even certain strategies originate from appeals arising from exceptional cases raised to the hierarchy of management authority. (c) Implied: policies and even strategies arise from actions that people perceive and believe to be policies or strategies. (d) Externally Imposed: Strategies or policies are externally formed due to the influence of governments and non-governmental organizations.

According to Heryanto (2022), farming development strategies need to be carried out before the business is run, there are at least five objectives why before a business or project is run, a feasibility study is needed, namely: (1) Avoiding the risk of loss. To anticipate risks in the form of uncertainty. In this case, the function of a feasibility study is to minimize unwanted risks, both risks that can be controlled and those that cannot be controlled. (2) Facilitating Planning. After forecasting occurs in the future, planning and planning will be easier.

3. Review of Shallots

The shallot plant is thought to originate from Central Asia, especially Palestine and India, but some estimate its origin to be Southeast Asia and the Mediterranean. Another opinion states that shallots originated in Iran and the northern mountains of Pakistan, but there are also those who say that this plant originated in West Asia and then developed into Egypt and Turkey (Wibowo, 2005).

Morphologically, shallots can be divided into roots, stems, leaves, flowers, fruits, and seeds. The roots of shallot plants consist of (*primary roots*) that function as a place to grow (*adventitious roots*) and root feathers that support the establishment of plants and absorb water and nutrients from the soil. Roots can grow to a depth of 30 cm, are white in color, and, if squeezed, have a pungent smell like the smell of shallots (Pitojo, 2003).

Shallot flowers consist of a flower stalk and a flower cluster. The base of the flower stalk at the bottom was slightly inflated and the upper stalk was smaller. At the end of the stalk, there is a head-shaped and slightly pointed part, which is a flower cluster that is still wrapped in shrimp. After the shrimp is opened, the cluster gradually appears, and flower buds appear with a stalk size of less than 2 cm (Sumadi, 2003).

The best area for shallot cultivation is a sunny dry climate with high temperatures. Four open, non-fog, and light winds. Areas that receive full sunlight are also very favorable, and it is better if the duration of sunlight is greater than 12 h. Keeping this in mind, in sheltered places, it can cause poor tuber formation and small size (Wibowo, 2005).

Shallot plants grow better in soils that are loose, fertile, and contain large amounts of organic matter. Suitable soils for shallot growth include dusty loam and sandy loam; the most important thing is that the groundwater does not stagnate. Good drainage must be performed on land that is often flooded. The degree of soil acidity (pH) was between 5.5 – 6.5 (Sartono, 2009).

4. Definition of Strategy and Development Strategy

Strategy places the parameters of an organization in terms of defining the place of business and the way in which the business competes. Strategy indicates the general direction that an organization (company) intends to achieve its goals. It is both a grand plan and an essential plan. Every well-managed organization has a strategy, even if it is not explicitly stated. According to Chandler (1962), strategy is the establishment of the long-term goals and objectives of a company, and the course of action and allocation of resources necessary to achieve those goals and objectives.

There are four types of strategies that are commonly used by management in their planning: (a) corporate strategy is about the overall purpose of the organization, the company's mission, and vision of what will happen in the future. This strategy encourages us to be in an area where the company should be. (b) Business strategy generally refers to a specific business unit, which can simply determine where and how to compete in the market and business model, and the resources needed. (c) Market strategy is a core part of business strategy, and creates a higher domain that influences the direction, focus, and priorities of the business. (d) Marketing strategy becomes more functional and operational, specifying how brands, products, channels, and communications should be built and executed to achieve success.

To understand the emergence of strategy, it is worth reviewing some of the main sources of strategy, namely: (a) Originated: the most logical source of strategy or policy is top management, who settle it as a guide for subordinates in the implementation of their tasks. (b) Appealed: In practice, almost all policies and even certain strategies originate from appeals arising from exceptional cases raised to the hierarchy of management authority. (c) Implied: policies and even strategies arise from actions that people perceive and believe to be policies or strategies. (d) Externally Imposed: Strategies or policies are externally formed due to the influence of governments and non-governmental organizations.

According to Heryanto (2022), farming development strategies need to be carried out before the business is run, there are at least five objectives why before a business or project is run, a feasibility study is needed, namely: (1) Avoiding the risk of loss. To anticipate risks in the form of uncertainty. In this case, the function of a feasibility study is to minimize unwanted risks, both risks that can be controlled and those that cannot be controlled. (2) Facilitating Planning. After forecasting occurs in the future, planning and planning will be easier.

2. METHOD

This research was conducted in Padangsidimpuan City, which is concentrated in three potential sub-districts for the development of shallot commodities; Padangsidimpuan Hutaimbaru sub-district, Padangsidimpuan Angkola Julu sub-district, and Padangsidimpuan Batunadua sub-district. Stakeholders from these three sub-districts will be a source for researchers to gather the necessary information. Based on its objectives, this study is a type of development research. Research methods are used to produce certain products and test their effectiveness.

Quantitative data were used in this study. The data were measured on a numerical scale (numbers), which can be divided into interval and ratio data. The data source is the location from which the data were obtained, taken, and collected. The types of data sources for this research include primary data in the form of interviews and direct observations conducted by the author in the field, and secondary data in the form of documents, archives, and official documents of the Padangsidimpuan City Government. The technique of determining informants to be used in this research is purposive sampling, where the informants are selected with special consideration from researchers, taking into account the characteristics of the data based on the analysis needs in this research, and researchers use the SWOT analysis method (*Strengths, Weaknesses, Opportunities, Threats*) to analyze the data.

3. RESULTS AND DISCUSSION

Results

Shallot cultivation in Padangsidimpuan City is relatively new. So far, farmers who grow shallots are still very limited and tend only to fulfil family needs. This cultivation is still traditional, without a strong technological approach. Over the last five years, the Local Government of Padangsidimpuan City has been vigorous in encouraging shallot cultivation. The diversification of shallot crops is considered to have several strategic objectives, namely, increasing farmers' income and fulfilling regional needs so that they are not too dependent on supplies and other regions.

The Regional Government has made several efforts to increase shallot production and productivity, such as:

1. Providing stimulus assistance for seeds and other production facilities to farmers in potential areas such as Padangsidimpuan Hutaimbaru District, Padangsidimpuan Angkola Julu District, and Padangsidimpuan Batunadua District.
2. Encourage the emergence of farmer groups and farmers who breed shallot seeds to fulfil regional seed needs.
3. Maximizing assistance by Agricultural Extension officers in the field in guarding and succeeding shallot planting in their respective working areas.
4. Make efforts to increase farmers' knowledge by organizing several activities that are able to transfer knowledge, knowledge, and technology of shallot cultivation to farmers. These activities include training and field schools for the management of shallot crops.

Discussion

Farmers enthusiastically responded to the shallot crop development program. This is because the high demand in the region is also due to the characteristics of the shallot plant, which matures very early. The period of one planting season was only 60 days. Thus, with an intensive land management system, five to six crops can be cultivated in one year it can achieve 5 to 6 crops.

In general, there are two components that become the concentration of this internal factor: strength and weakness. The study of shallot cultivation development in Padangsidimpuan city, which is a strength as an internal factor, is presented in the following table:

Table 1. Internal factors as strengths in the development of shallot cultivation

Indicators		% Likert scale (Category/ Score)		
		Disagree	Neutral	Agree
Notation	Variable / Questionnaire Question			
B1	Shallots have many benefits for humans, besides being a seasoning, they are also beneficial for health	0,00	13,33	86,67
B2	It is a major vegetable and spice crop without substitutes that is classified as a staple with high market demand	0,00	10,00	90,00
B3	Shallots are a crop with a high level of productivity	3,33	16,67	80,00
B4	The cultivation period of shallot plants is relatively fast because the plants are very early maturing	0,00	3,33	96,67

B5	Can be intercropped with other crops so that the land is more optimised	0,00	16,67	83,33
B6	Shallot plant maintenance is simpler and more practical than other horticultures	10,00	6,67	83,33

Internal factors that weaken the development of shallot cultivation on a Likert scale indicate that there are internal factors that farmers think can hinder the development of cultivation. The identification of existing factors then determined that there are six internal factors that become weaknesses. The results of the recapitulation of the internal factors of weakness are presented in Table 10.

Table 2. Internal factors as Weaknesses in the development of Shallot cultivation

Notation	Indicators Variable/ Questionnaire Question	% Likert Scale (Category / Score)		
		Disagree	Neutral	Agree
C1	Shallots are highly susceptible to disease during the rainy season	0,00	10,00	90,00
C2	The price of shallot seedlings is relatively high, making shallot cultivation more capital-intensive	0,00	0,00	100,00
C3	Shallots are a new commodity so farmers' understanding of shallot cultivation is still limited	13,33	6,67	80,00
C4	Shallots are a perishable crop if mishandled post-harvest and storage	13,33	6,67	80,00
C5	Certified shallot seedling breeding in Padangsidimpuan is not yet sustainable	0,00	36,67	63,33
C6	Onion medicines and fertilisers are relatively expensive	30,00	13,33	56,67

In this study, six external factors become opportunities. External factors that trigger the emergence of social problems are natural, population, location, and economic, environmental, and social factors. External factors significantly influence object development. The recapitulation of research results related to external factors of opportunity is presented in the table below.

Table 3. External Factors Opportunities in the development of shallot cultivation

Notation	Indicators Variable / Questionnaire Question	% Likert Scale (Category / Score)		
		Disagree	Neutral	Agree
D1	Regional and Central Government support is very strong in making Padangsidempuan a new centre for shallot crops.	0,00	16,67	83,33
D2	The region's need for shallots has not been fulfilled so it is highly dependent on supplies from other regions.	0,00	6,67	93,33
D3	Prospective land for development is still very much available in the Padangsidempuan area.	0,00	40,00	60,00
D4	Market share is very wide, covering neighbouring areas due to the city of Padangsidempuan being a buffer.	0,00	76,67	23,33
D5	Shallots have various downstream products, including fried onions, onion flour, onion paste and oil, among others.	0,00	23,33	76,67
D6	High suitability of climate, weather and altitude for shallot cultivation.	0,00	16,67	83,33

The identification of threat factors in the development of Shallot Cultivation is mapped into 4 (four) factors: climate anomalies, supply of other regions, price fluctuations, import policies, and land conversion. A recapitulation of the results related to external threat factors. Table 4. External Factors Threats to the development of Shallot Cultivation

Notasi	Indicators Variable / Questionnaire Question	% Likert Scale (Category/ Score)		
		Disagree	Neutral	Agree
E1	Extreme weather often disrupts the growth of shallot plants.	0,00	3,33	96,67
E2	Shallot supply from various regions.	0,00	3,33	96,67
E3	The fluctuation of shallot selling price is very high when the national shallot centre is having a bumper harvest.	0,00	86,67	13,33
E4	National policy in the form of imports of horticultural commodities such as shallots.	33,33	40,00	26,67

Notasi	Indicators Variable / Questionnaire Question	% Likert Scale (Category/ Score)		
		Disagree	Neutral	Agree
E5	Massive land conversion threatens the existence of agricultural land.	0	20	80
E6	The perception of market players who are less appreciative of locally produced shallots.	13,33	10	76,66

Shallot cultivation in Padangsidimpuan City is feasible for development. This development by finding effective ways to answer or overcome the internal factor “The price of shallot plant seeds is relatively high, making shallot cultivation more capital intensive” (C2). The development of breeder farmers to make Padangsidimpuan City can fulfil the needs of farmers’ own seeds. Another internal factor that supports the development of shallot cultivation in Padangsidimpuan City is the positive stigma from the perspective of farmers towards shallots, which are plants that have a relatively fast cultivation period of shallot plants because the plants are very early maturing (B4) and are the main vegetable crops and spices without substitution, which are classified as basic needs with high market demand (B2). The most dominant external factor in the development of shallot cultivation is the high unmet regional needs (D2), which are highly dependent on shallot supply from various regions (E2). With the support of the regional and central governments, it is very strong to make Padangsidimpuan a new center area for shallot plants. (D1), and the suitability of climate, weather, and land height is very high for shallot cultivation (D6), and the development of shallot cultivation in Padangsidimpuan City is very likely to be realized.

4. CONCLUSIONS AND SUGGESTIONS

Conclusions

Shallot cultivation in Padangsidimpuan City is feasible for development. This development by finding effective ways to answer or overcome the internal factor “The price of shallot plant seeds is relatively high, making shallot cultivation more capital intensive” (C2). The development of breeder farmers to make Padangsidimpuan City can meet the needs of farmers’ own seeds. The most dominant external factor in the development of shallot cultivation is the high unmet regional need (D2), which is highly dependent on the shallot supply from various regions (E2). The development strategy of shallot cultivation in Padangsidimpuan is to optimize the strengths possessed to realize existing opportunities. The cooperation of each stakeholder, such as the main actors, business actors, government, and non-governmental organizations, must be realized in one swift step in the development of shallot cultivation in Padangsidimpuan City. In addition to structuring the farm sector in the farmer’s environment, the upstream sector, which is the supplier of production facilities and trade regulations, should be well organized to realize an effective and conservative development system.

Suggestion

1. The process of developing shallot cultivation tends to involve all stakeholders, so that what becomes a development issue is the representation of all parties.
2. The development of shallot cultivation should prioritize sustainability and sustainability.
3. In this development, there is an approach to all aspects of shallot agribusiness. Good upstream arrangement to produce cheap-quality production facilities.

5. ACKNOWLEDGE

Alhamdulillah wa syukurillah, all praise and praise to Allah SWT, the Almighty God who always gives the author and all of us grace, the gift of health, guidance, and his guidance and ease to the author so that this research is complete. Shalawat and salam may remain devoted to the great Prophet Muhammad SAW, the last Prophet as the Seal of the Prophets, the perfecter of the Islamic treatise, and the role model and intercessor of those of us who believe in it.

In this research, the author raises the topic "Development Strategy of Red Onion Cultivation (*Allium ascalonicum* L) in Padangsidempuan City" as the object of discussion in this paper. The author received a lot of support and moral assistance in its implementation, which greatly contributed to the completion of this thesis. For this reason, the author expresses his gratitude and highest appreciation for:

1. The author's family has always patiently provided prayers, support, and motivation for this educational process.
2. Supervisory Commission, Dr. Ir. Sutan Pulungan, Msi (Supervisor 1), and Dr. Erwin Syah Lubis, ST, MT. (Supervisor 2), who sincerely provided input and direction in the preparation of this thesis.
3. The Head of the Study Program, Mrs. Dr. Rasmita Adelina Harahap, SP.M.Si, and lecturers of the Agrotechnology Study Program of the UGN Padangsidempuan Masters Program, for all the knowledge that has been taught during lectures.
4. Fellow students of the Agrotechnology Study Program of the UGN Padangsidempuan Masters Program for their support and enthusiasm in starting and ending this lecture.
2. As a person who is not free from mistakes and shortcomings, the author realizes that this thesis is far from perfect; with humility, the author will accept all constructive criticism and suggestions. Finally, the author hopes that this thesis can be useful for all of us, especially for those who need it.

REFERENCE

- ABBAS, I., FATTAH, M, A., & B, S. (2023). STRATEGI PENGEMBANGAN AGRIBISNIS BAWANG MERAH DI DESA BANTI KECAMATAN BARAKA ENREKANG. JURNAL SAINS AGRIBISNIS. <HTTPS://JURNAL.UMSRAPPANG.AC.ID/JSA/ARTICLE/VIEW/869/879>
- Adelina, Eti. 2021. Analisis Struktur dan Kinerja Pemasaran Komoditas Bawang Merah Lokal di Kelurahan Tomenawa Kecamatan Baraka Kabupaten Enrekang.
- Adelina, R., Lubis, E. S., Harahap, H. H., Lubis, Y., Romadhona, B., & Sipahutar, A. (2024). Identifikasi Potensi Pertanian Terpadu Di Desa Sarogodung Kecamatan Sipirok Kabupaten Tapanuli Selatan. *BEST Journal (Biology Education, Sains and Technology)*, 7(2), 701-707.
- Adelina, R., Lubis, E. S., Harahap, H. H., Lubis, Y., Romadhona, B., & Sipahutar, A. (2024). Identifikasi Potensi Pertanian Terpadu Di Desa Sarogodung Kecamatan Sipirok Kabupaten Tapanuli Selatan. *BEST Journal (Biology Education, Sains and Technology)*, 7(2), 701-707.
- Alamsyah, Purnama dan Iin Surminah. 2011. Ilustrasi Penggunaan Soft System Methodology dalam Memahami Kemitraan antara Lembaga Litbang Pemerintah dengan Industri. *Warta Kebijakan Iptek dan Manajemen Litbang*. LIPI. Jakarta
- Arikunto, S. 1998. *Prosedur Penelitian*. Jakarta: Rinneka Cipta
- Ary, D., Jacobs, L.C. & Razavieh, A. 1976. *Pengantar Penelitian Pendidikan*. Terjemahan oleh Arief Furchan. 1982. Surabaya: Usaha nasional

- Aryana, I Wayan Redi. 2019. Bawang Merah dan Manfaatnya Bagi Kesehatan. Universitas Hindu Indonesia.
- Badan Agribisnis Departemen Pertanian. 1995. Sistem, Strategi dan Program Pengembangan Agribisnis. Jakarta.
- Cahyani, Utari Evy. 2017. Analisis Strategi Pengembangan Agribisnis Salak di Kabupaten Tapanuli Selatan. IAIN Padangsidempuan.
- Donuata, P. B. (2019). Pengaruh Quantum Teaching Metode PQ4R Berdasarkan Keragaman Kecerdasan Terhadap Hasil Belajar Fisika. *Jurnal Riset Dan Kajian Pendidikan Fisika*, 6(1), 23–27. <https://doi.org/10.12928/jrkpf.v6i1.11094>.
- Edriati, S., Hamdunah, H., & Astuti, R. (2016). Peningkatan Prestasi Belajar Matematika Siswa SMK Melalui Model Quantum Teaching Melibatkan Multiple Intelligence. *Cakrawala Pendidikan: Jurnal Ilmiah Pendidikan*, 35(3). <https://doi.org/10.21831/cp.v35i3.8253>.
- Hendrawati, Elly et.al. 2014. Analisis Persepsi Petani dalam Penggunaan Benih Padi Unggul di Kecamatan Muara Pawan Ketapang. *Jurnal Social Academic of Agricultrre*. Universitas Tanjung Pura-Pontianak
<HTTPS://WWW.SEMANTICSCHOLAR.ORG/PAPER>
- Jawa Pos. 22 April 2008. *Wanita Kelas Bawah Lebih Mandiri*, hlm. 3
- Kansil, C.L. 2002. Orientasi Baru Penyelenggaraan Pendidikan Program Profesional dalam Memenuhi Kebutuhan Dunia Idustri. *Transpor*, XX(4): 54-5 (4): 57-61 <https://doi.org/10.31004/basicedu.v4i3.395>.
- Krisnamurti. 2020. Pengertian Agribisnis. Puspa Swara.Bogor.
- Kumaidi. 2005. Pengukuran Bekal Awal Belajar dan Pengembangan Tesnya. *Jurnal Ilmu Pendidikan*. Jilid 5, No. 4, <https://doi.org/10.21070/pedagogia.v6i1.617>.
- Kuntoro, T. 2006. *Pengembangan Kurikulum Pelatihan Magang di STM Nasional Semarang: Suatu Studi Berdasarkan Dunia Usaha*. Tesis tidak diterbitkan. Semarang: PPS UNNES. <https://doi.org/10.30998/formatif.v4i3.161>.
- Lubis, Y., Pulungan, S., & Syahlubis, E. (2024). Karakteristik Dan Produktivitas Padi Varietas Unggul Lokal Siporang Di Kabupaten Tapanuli Selatan. *BEST Journal (Biology Education, Sains and Technology)*, 7(2), 1670-1676.
- Lubis, Zulkarnain. 2019. Strategi Pengembangan Komoditi Bawang Merah di Kabupaten Simalungun. UNM AI Washliyah.
- Luta,Devi Andriani. 2020. Pemanfaatan Kompos Dalam Pembudidayaan Bawang Merah Pada Pekarangan Rumah di Desa Tomuan Holbung Kecamatan Bandar Pasir Mandonge. Universitas Pembangunan Panda Budi. Medan.
- Pitunov, B. 13 Desember 2007. Sekolah Unggulan Ataupun Sekolah Pengunggulan ? *Majalah Pos*, hlm. 4 & 11. <https://doi.org/10.31539/judika.v2i1.701>.
- Poerwanto, Roedhy. 2021. Teknologi Hortikultura. IPB Press. Bogor.
- Purba. Deddy Waryudi, Dkk. 2020. Pengantar Ilmu Pertanian. Yayasan Kita Menulis. Medan.
- Qotrum A.2020. Objek Penelitian : pengertian, Macam, prinsip dan Cara menentukannya. didalam artikel <WWW.gamedia.com>
- SASMITA, YANTI, WAJEDI, FARID (2023). STRATEGI PENGEMBANGAN PRODUKSI BAWANG MERAH DI DESA KOMBO KABUPATEN TOLITOLI, SULAWESI TENGAH
- Sihombing, D., & Adelina, R. (2025). Pengaruh Kombinasi Pupuk Kandang Sapi, Arang Sekam, dan Pestisida Teki terhadap Pengendalian Penyakit Moler serta Keragaman Genetik Bawang Merah (*Allium ascalonicum L.*) Varietas Bauji Generasi Kedua (M2)

Melalui Penyinaran Iradiasi Sinar 60CO (Integral Riview). *Journal Agro-Livestock (JAL)*, 3(01), 138-144.

Sijabat, Kastro et.al. 2021. Strategi Pengembangan Agribisnis Komoditas Bawang Merah Di Desa Silalahi I, Kecamatan Silahisabungan, Dairi. <https://ejurnal.darmaagung.ac.id/index.php/agribizda/article/view/1391/1254>

Waseso, M.G. 2001. *Isi dan Format Jurnal Ilmiah*. Makalah disajikan dalam Seminar Lokakarya Penulisan artikel dan Pengelolaan jurnal Ilmiah, Universitas Lambungmangkurat, 9-11Agustus. <https://doi.org/10.30659/pendas.7.1.60-67>.