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The Effect of Tofu Pulp Compost Application on the Growth and Yield of Peanut (*Arachis hypogaea* L.)

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Abstrak
The Effect of Tofu Pulp Compost Application on the Growth and Yield of Peanuts (Arachis hypogaea L.) Peanut productivity relies heavily on soil fertility and organic matter availability. The application of tofu pulp compost offers a sustainable alternative to improve soil condition and provide essential macronutrients required for crop growth. This study aimed to evaluate the effect of tofu pulp compost and determine its most effective application rate for enhancing peanut growth and yield. The experiment was arranged in a Randomized Block Design (RBD) with four treatments (0, 15, 20, and 25 tons ha^{-1}) and six replications. Measured parameters included plant height, leaf number, branch number, stem diameter, pod weight per plant, seed weight per plant, 100-seed weight, and total pod yield per plot. Data were analyzed using analysis of variance (ANOVA) followed by Duncan's Multiple Range Test (DMRT) at a 5% significance level. Results demonstrated that applying tofu pulp compost significantly increased plant height compared to the control. However, leaf number, branch number, and stem diameter did not differ significantly among treatments. Notably, the 20 tons ha^{-1} treatment achieved the highest yield components and total pod productivity. Consequently, applying tofu pulp compost at 20 tons ha^{-1} is the most effective application rate for maximizing peanut yield under these trial conditions.

Keywords: Dose; Organic; Peanuts; Tofu Pulp Compost; Yield

Introduction

Peanuts (*Arachis hypogaea* L.) are a key commodity that supports food security while also serving as a raw material for industry. Although peanuts are an agribusiness commodity with high economic value, domestic production has not yet been able to meet national demand (A. Rahayu et al., 2020). Peanuts serve a variety of purposes, including as a food source, animal feed, and industrial raw material. The wide range of uses for this commodity gives peanuts a crucial role in meeting national food needs (Susilo et al., 2019). During the 2019–2023 period, peanut productivity tended to fluctuate and declined in 2023 to 13.09 q/ha. As the harvested area decreased from 283,000 to 267,000 hectares, total national production fell by approximately 16.7%, from 420,000 tons to 350,000 tons (BPS, 2024).

This decline in productivity may be caused by several factors, such as deteriorating soil quality and high planting intensity, which lead to an imbalance of organic matter and nutrients in the soil. In addition, excessive use of chemicals can also lead to increasingly nutrient-poor soil conditions (Riskawati, 2023). The impact of chemical use in agriculture is a critical issue for ecological sustainability (Tarihoran et al., 2025). To improve soil fertility levels, effective restoration strategies are needed to rejuvenate the soil using organic matter such as compost (Arifin & Susilowati, 2022). In addition to being environmentally friendly, compost enriches the soil physically, chemically, and biologically thanks to the nutrients it contains (Sutari, 2016).

Composting is the process of decomposing organic materials such as plant residues, manure, and industrial waste, which are then used as natural fertilizers to improve and enhance soil fertility (Harlis,

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et al. 2019). The use of compost as an organic fertilizer has been widely adopted because it provides macronutrients for plants (Aufa et al., 2020). Although the nutrient content in compost is relatively low, its use benefits the soil, and the required application rate is typically relatively high (Alam, 2022). Generally, compost is derived from abundant organic materials, such as solid waste from tofu production, commonly known as tofu residue. According to Kaswinarni (2007), tofu residue is a byproduct of tofu production that accounts for a significant amount of waste approximately 25–35% of the total production mass. If not managed properly, the abundance of tofu residue can become a source of environmental problems, such as declining water quality (Putri, 2021. These conditions make tofu residue a potential raw material for compost.

The use of tofu pulp compost can benefit plants by providing macronutrients. This is consistent with research conducted by Siregar (2022), which found that tofu pulp compost can supply the nutrients needed by plants, thereby helping to improve soil quality. The availability of macronutrients in tofu pulp affects fertilizer application rates; meanwhile, a study Kurniawan et al (2022) demonstrated the use of tofu pulp waste on peanut plants through the application of tofu pulp bokashi combined with phosphate fertilizer. The results of this study showed that a combination of 15 t ha^{-1} of tofu pulp bokashi and 200 kg ha^{-1} of phosphate fertilizer yielded the best results in enhancing peanut plant growth. However, this study specifically focused on the use of tofu pulp bokashi combined with phosphate fertilizer. The effects of applying soybean pulp compost alone on the growth and yield of peanut plants have not yet been extensively tested.

This study aims to evaluate the use of tofu pulp compost as a source of organic fertilizer applied at various rates and its effects on the growth and yield of groundnut plants (*Arachis hypogaea* L.).

Literature Review

Peanuts are one of Indonesia's major commodities, but their production still faces various challenges, one of which is related to soil conditions characterized by low organic matter content. In fact, soil is one of the key factors determining the success of peanut growth and productivity (Lestari, 2025). During their growth period, peanut plants require the nutrients nitrogen (N), phosphorus (P), and potassium (K). Nitrogen plays a role in vegetative growth and protein formation; phosphorus aids in metabolic processes and seed formation; while potassium plays a role in seed formation and the distribution of photosynthetic products throughout the plant (Arista et al., 2015)

One way to improve soil fertility and meet plant nutritional needs is through organic fertilization in the form of compost. Compost can be produced from various types of organic waste that undergo decomposition, one of which is tofu residue. The composting process, aided by microorganisms such as bacteria and fungi, breaks down organic matter into compost that has the potential to provide essential nutrients for plants, such as nitrogen (N), phosphorus (P), potassium (K), and organic carbon (C) (Imron, 2021).

The availability of macronutrients in tofu residue influences the application rate. Previous studies by Roefaida et al. (2022) demonstrated the effect of tofu pulp compost on the growth of mustard greens, with the most optimal application rate being 15 tons h^{-1} compared to lower application rates. Meanwhile, the results of the study by Rahmayuni et al. (2023) indicate that the use of tofu pulp compost has a significant effect on the growth and yield of curly red chili peppers, particularly on plant height and stem diameter. The treatment yielding the most optimal results was the application of 400g of compost per polybag combined with 50% inorganic fertilizer. Meanwhile, according to a study by Lubis et al (2022), the application of 4 kg/plot of soybean curd compost to sweet corn plants had a significant effect on plant height and leaf area at 6 weeks after planting, but did not have a significant effect on cob weight per plot.

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Based on previous studies, the application of tofu pulp compost yields varying responses across different crop types and observation parameters. This indicates that the effectiveness of compost is not only related to the application rate but also to the plant's response to nutrient supply. However, the results of studies on Chinese cabbage, curly red chili peppers, and sweet corn cannot yet be used as a direct reference for determining the appropriate application rate for groundnuts. Therefore, research on the effects of various application rates of tofu pulp compost on the growth and yield of groundnuts is needed to identify the rate that yields the best results.

Research Method

This study was conducted in Nanggela Village, Mandirancan Subdistrict (-6.80, 108.47), Kuningan Regency, West Java Province, where the average temperature ranges from 22° to 26°C. The study was conducted from March to June 2026. The materials used included "Gajah" variety peanut seeds, tofu pulp, molasses, EM4, and insecticide, while the equipment used included a hoe, measuring tape, hole punch, tarp, scale, treatment labels, and writing utensils. This study employed a Randomized Block Design (RBD) with four treatment levels of tofu pulp compost 0, 15, 20, and 25 tons ha^{-1} each repeated six times, resulting in 24 plots. The determination of the tofu pulp compost treatment levels was based on a dose of 15 tons ha^{-1}, which was used as a reference from a previous study on Chinese cabbage. Two higher application rates 20 and 25 tons ha^{-1} were added to evaluate the effect of varying application rates on peanut growth and yield and to identify the rate that yields the best results.

The compost was prepared in-house by mixing 210 kg of semi-dry tofu residue and 50 kg of rice bran, followed by the addition of EM4 mixed with molasses. The mixture was fermented for 14 days, with turning every 2 days. According to Wulansari et al. (2020), the natural composting process generally takes a relatively long time, ranging from a minimum of 14 to 35 days, and the compost is turned to optimize the process. One characteristic of mature compost is a decrease in temperature

Soil preparation was performed twice on 2 m × 2 m plots, with compost applied as a base fertilizer during the second preparation or one week before planting according to the treatment dose. Planting began with seeds that had been pre-selected based on uniformity of size and physical condition. For peanut crops, a planting spacing of 40 cm × 20 cm can yield high production (Suryanto, 2022). Next, planting holes 3–5 cm deep were made, each containing one seed, and then covered with charred rice husks. Crop maintenance included watering according to weather conditions and soil moisture levels, thinning at 7 days after sowing (DAS), weeding every two weeks starting at 14 DAS until just before harvest, and a single pest control treatment using Demolish 18 EC at the recommended dosage. Observations were made on the growth and yield of the peanut plants, including plant height, number of leaves, number of branches, stem diameter, pod weight per plant, pod weight per plot, seed weight per plant, and the weight of 100 seeds. Peanuts were harvested at 110 days after sowing (DAS) when the leaves had turned yellow and dried, the stems had begun to dry, and the pods had hardened and turned dark brown.

The observation data were analyzed using analysis of variance (ANOVA) in accordance with the experimental design. If the F-test results indicated significant differences between treatments, the analysis was followed by *a Duncan Multiple Range Test* (DMRT) at the 5% significance level (Syamsuwirman & Sari, 2021). Data analysis was performed using Microsoft Excel and SPSS.

Results and Discussion

Soil Fertility Analysis and Analysis of Tofu Residue Compost

Based on the results of laboratory analysis of the initial soil samples, the H_2O pH was found to be 6.04 (KCl pH 5.01), with an organic carbon content of 1.32%, total nitrogen of 0.19%, available phosphorus

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of 71.4 ppm P_2O_5, and available potassium of 113 ppm K_2O. The soil texture analysis results showed a sand content of 16.60%, a silt content of 36.65%, and a clay content of 46.75%.

Meanwhile, laboratory analysis of the tofu pulp compost revealed a pH of 8.96, an organic carbon content of 37.93%, total nitrogen of 4.75%, total P_2O_5 of 1.91% and total K_2O of 1.94%. Furthermore, the soya bean curd residue compost had a moisture content of 65.11%, a C/N ratio of 7.99, and a cation exchange capacity (CEC) of 19.0 cmol/kg.

The results of the soil texture analysis indicate that the soil used in this study falls within the clay fraction. The soil exhibits a slightly acidic to near-neutral reaction, with relatively low levels of organic carbon and total nitrogen. A comparison of the laboratory analysis data shows that the tofu residue compost has significantly higher levels of organic carbon and macronutrients (N, P, K) compared to the initial soil conditions. The compost has an alkaline pH. These differences in characteristics demonstrate that tofu residue compost can serve as a source of organic matter and additional nutrients to enrich the initial soil medium, thereby directly influencing the growth and yield of groundnut crops. This is in line with Lase (2025), who states that the application of compost as an organic material has been proven to supply essential nutrients to the soil. The improvement in soil porosity creates an optimal root environment, thereby significantly increasing the efficiency of nutrient uptake by plants.

Plant Growth Variables.

Plant growth response during the vegetative phase is a fundamental indicator of early nutrient uptake and physiological development. In this evaluation, vegetative performance was monitored using four main parameters: plant height, number of leaves, number of branches, and stem diameter, which were observed at 14, 21, and 28 days after planting (DAP). The complete mean values and statistical comparisons for all evaluated growth parameters among the treatments are listed in Table 1.

Based on the results of data tabulation and the analysis of variance (ANOVA) conducted on all plant growth variables, peanut plants exhibited varying responses and distinct growth patterns for each variable observed during the experimental period. As shown in the data presented in Table 1, plant height measured during the initial observation 14 days after planting (DAP) began to show a clear positive response to the application of various tested doses of tofu pulp compost. These differences in average plant height are clearly evident across each treatment dose level when directly compared to the control treatment without compost application. Nevertheless, the figures from the initial observation do not fully reflect the overall dynamics of plant growth, given that in subsequent observation periods namely at 21 DAP and 28 DAP the application of tofu pulp compost at each treatment dose consistently continued to show better increases in plant height compared to the treatment without tofu pulp compost (control). However, for the variables of number of leaves, number of branches, and stem diameter, there was no significant difference.

Table 1. Average Plant Height, Number of Leaves, Number of Branches, and Stem Diameter.

Treatment	14 DAP	21 DAP	28 DAP
	Average Plant Height (cm)		
Control	9.84 a	13.14 a	16.64 a
15 tons ha^{-1}	11.50 ab	14.84 b	19.80 b
20 tons ha^{-1}	12.12 b	15.46 b	20.00 b
25 tons ha^{-1}	10.62 a	15.30 b	19.82 b
	Average Number of Leaves (pieces)		
Control	5.08 a	10.52 a	18.00 a
15 tons ha^{-1}	5.00 a	10.90 a	19.80 a
20 tons ha^{-1}	5.20 a	10.93 a	21.20 a

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25 tons ha^{-1}	5.02 a	11.20 a	20.43 a
	Average Number of Branches		
Control	1.36 a	2.64 a	3.56 a
15 tons ha^{-1}	1.48 a	2.96 a	3.92 a
20 tons ha^{-1}	1.40 a	2.80 a	3.88 a
25 tons ha^{-1}	1.44 a	2.84 a	3.84 a
	Average Stem Diameter (mm)		
Control	0.21 a	0.29 a	0.33 a
15 tons ha^{-1}	0.25 a	0.30 a	0.34 a
20 tons ha^{-1}	0.24 a	0.29 a	0.34 a
25 tons ha^{-1}	0.22 a	0.26 a	0.33 a

Note: Numbers followed by the same letter in the same column indicate no significant difference according to the DMRT test at the 5% level.

These results are likely due to the application of tofu residue compost, which promotes plant height through stem elongation. According to Dewanto (2022), the increase in plant height is caused by cell division and elongation occurring in the apical meristem and stem nodes, thereby promoting plant height growth. This process is closely related to the role of nitrogen (N) present in the tofu pulp compost. As mentioned in a study by Hadi (2017), plant height growth is closely related to the availability of nitrogen (N). This nutrient can stimulate plant growth during the vegetative phase through stem elongation. In line with this, according to Nuraida (2022), nutrient availability supports plant height growth. Tofu pulp compost supports the physiological processes of plants that promote an increase in the rate of plant height growth.

It is hypothesised that the application of tofu pulp compost does not significantly influence the formation of leaves, branches, and stem diameter in groundnut plants because the available nutrients are largely utilised to support plant height growth during the vegetative phase, resulting in no differences between treatments. This is also thought to be due to the fact that the nutrients are not yet fully available to the plants. This condition is related to the ongoing mechanism of nutrient release. As stated in a study by Rahayu et al (2026), which showed that organic-based compost releases nutrients gradually, resulting in a slow release during the early growth phase.

Nutrient availability is greatly influenced by the activity of microorganisms in the soil. Consequently, there were no significant differences in the number of leaves, the number of branches, and stem diameter. This is believed to be related to the nature of organic matter, which releases nutrients gradually through the process of decomposition; consequently, the growth response for each plant parameter may vary (Ariyanti et al., 2017).

Yield Components and Yield Variables

Pod weight per plant is the weight of pods produced by each plant sample after harvest, which reflects the pod yield per peanut plant. Seed weight per plant is obtained by weighing all the seeds produced by each plant sample after the pods are opened and the seeds are separated. The weight of 100 seeds is the result of weighing 100 seeds taken from each experimental plot, which is used to describe the size and degree of seed filling produced by the peanut plants.

Based on the analysis results in Table 2, it is clear that the application of tofu pulp compost at a rate of 20 tons ha^{-1} in the treatment had a significant effect on pod weight per plant, seed weight per plant, and the weight of 100 seeds.

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Table 2. Yield Component Variables

Treatment	Pod Weight per Plant (g)	Seed Weight per Plant (g)	Weight of 100 Seeds (g)
Control	20.48 a	11.93 a	41.16 a
15 tons ha^{-1}	26.24 b	17.66 b	44.33 bc
20 tons ha^{-1}	37.16 d	23.10 c	46.50 c
25 tons ha^{-1}	32.99 c	18.90 b	44.00 b

Note: Numbers followed by the same letter in the same column indicate no significant difference according to the DMRT test at the 5% level.

Pod Weight per Plant

The increase in pod weight per plant at a dose of 20 tons ha^{-1} is believed to be related to the nutrient content in the tofu pulp compost, which can increase pod weight in peanut plants. The macro-nutrient content in the compost contributes to supporting peanut pod formation. As noted in a study by Sari & Buana (2025), applying compost at the appropriate rate ensures sufficient nutrient availability for the plants; this is one indicator of successful plant development during the flowering, fruiting, and optimal pod-filling phases.

Seed Weight per Plant

Regarding seed weight per plant, the study results show that the 20 tons ha^{-1} treatment yielded the highest seed weight. These results indicate that the 20 tons ha^{-1} treatment is the optimal dose capable of increasing seed weight per plant during peanut seed formation. According to Rozak (2020), successful peanut seed formation is determined by nutrient balance and availability, which depend on the plant's ability to absorb them.

Weight of 100 Seeds

The weight of 100 seeds is one indicator of peanut plant quality during the generative phase. In this study, the 20 tons ha^{-1} treatment yielded the highest weight of 100 seeds. This success was influenced by the availability of nutrients in the tofu pulp compost, which supported photosynthetic activity and the distribution of photosynthetic products for maximum seed filling; consequently, the 20 tons ha^{-1} treatment produced larger seed size and higher density compared to the other treatments. This is consistent with research by Bahar & Muzafri (2022), who found that the decomposition of organic matter can support proper seed formation and filling, thereby producing high-quality seeds. The observed difference in yield between the 25 tons ha^{-1} and 20 tons ha^{-1} treatments indicates that increasing the tofu pulp compost application rate does not guarantee higher yields. Therefore, even if the tofu pulp compost application rate is increased, the resulting yield may not necessarily be optimal, as the 20 tons ha^{-1} treatment already met the peanut plants' nutrient requirements. According to Tangahu & Azis (2022), when nutrient levels already meet the plants' needs, increasing the compost application rate tends not to result in further increases in yield.

Table 3. Yield Variables

Pod weight per plot is the total weight of all pods produced by the plants in a single experimental plot after harvest. This parameter is used to determine the total peanut pod yield obtained in each treatment plot.

Treatment	Pod Weight per Plot (g)
Control	789.18 a
15 tons ha^{-1}	938.58 a

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20 tons ha^{-1}	1,227.23 c
25 tons ha^{-1}	1,116.24 b

Note: Numbers followed by the same letter in the same column indicate no significant difference according to the DMRT test at the 5% level.

Pod Weight per Plot

Meanwhile, regarding the pod weight per plot variable, the results of the analysis of the effect of applying tofu residue compost at various rates showed statistically significant differences, with the 20 tons ha^{-1} treatment yielding the highest pod weight. This is closely related to the potential and chemical characteristics of the tofu residue compost used. Based on laboratory analysis results, tofu pulp compost has total N content (4.75%), (1.91%), and (1.94%) which are relatively high for an organic material.

The presence and steady release of these nutrients play a crucial role in the formation and filling of peanut pods. According to Nulhakim et al. (2023), nitrogen plays a role in protein formation and supports plant metabolism, while phosphorus plays a role in energy transfer processes and the development of reproductive organs. Potassium also plays a role in various plant physiological processes, particularly in translocating photosynthetic products (assimilates) from the leaves to storage organs. The high availability of P and K from tofu residue compost at a rate of 20 tons ha^{-1} optimally triggers the initiation of generative organs and stimulates the seed-filling process, resulting in more substantial pods and maximizing the pod weight per plot.

The pattern of increased pod weight per plot in this treatment with an optimal organic matter dose aligns with the findings of Gunawan and Sulhaswardi (2021), who reported that the supply of organic matter rich in the macronutrients N, P, and K significantly increased yield components and peanut pod weight through the efficient translocation of carbohydrates to storage organs. Solid tofu pulp compost at a rate of 20 tons ha^{-1} is capable of supplying nutrients sustainably while simultaneously improving the physical properties of the soil around the root zone, thereby facilitating pod penetration into the soil and optimizing pod weight accumulation per plot.

At the 25 tons ha^{-1} treatment, peanut plants exhibited a plateau response in seed weight, indicating that higher application rates of tofu pulp compost do not necessarily translate into proportional yield increases. Palmasari et al. (2022) stated that adequate nutrient availability essential for biomass formation supports both the vegetative and generative growth processes of peanut plants. However, this response is closely tied to the plant's physiological capacity to utilize available nutrients. Once these nutrient requirements are fully met as achieved at the 20 tons ha^{-1} dosage further additions of tofu pulp compost do not result in additional yield gains.

Conclusion

This study concluded that the application of tofu pulp compost at a rate of 20 tons ha^{-1} was the best treatment for yield components and total yield in peanut crops. This rate significantly produced the highest pod weight per plant, reaching 37.16 g, seed weight per plant of 23.10 g, 100-seed weight of 46.50 g, and pod weight per plot of 1,227.23 g. For vegetative variables, the compost treatment only increased plant height by up to 20.00 cm at 28 days after sowing (DAP) without having a significant effect on the number of leaves, branches, or stem diameter.

Meanwhile, increasing the application rate to 25 tons ha^{-1} resulted in a flattening of the response curve. This phenomenon indicates the existence of a fertilization efficiency threshold, where the sufficiency of essential nutrients for the generative process was already achieved at a rate of 20 metric tons ha^{-1}, making the addition of tofu residue to 25 tons ha^{-1} inefficient.

Tofu pulp compost should be used as a soil conditioner and base fertilizer in growing media. To

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stimulate rapid early vegetative growth, the use of compost should be combined with inorganic NPK fertilizer as readily available nutrients. Future research is expected to expand testing of tofu pulp compost combined with inorganic NPK fertilizer on other crops to assess its sustainability potential.

References

Alam, T. R. S. (2022). Uji karakteristik pupuk kompos pelet yang diperkaya dengan pupuk NPK dan arang tandan kosong kelapa sawit (TKKS) (Skripsi sarjana, Universitas Lampung). Repositori Universitas Lampung. http://digilib.unila.ac.id/id/eprint/65408

Arifin, Z., & Susilowati, L. E. (2022). Aplikasi biochar dalam mempengaruhi aktivitas mikrobia tanah pada pertanaman jagung yang menerapkan pola pemupukan terpadu. Jurnal Ilmu Lingkungan, 4(2), 23–24.

Arini, N., & Murrinie, E. D. (2022). The effect of mixed material and compost dosage of tofu waste on growth of water spinach (Ipomoea reptans). Jurnal Penelitian Agronomi, 24(1), 115–121. http://dx.doi.org/10.37159/jpa.v24i1.1495

Arista, D., & Suryono. (2015). Efek dari kombinasi pupuk N, P dan K terhadap pertumbuhan dan hasil kacang tanah pada lahan kering Alfisol. Agrosains: Jurnal Penelitian Kegiatan Pertanian, 17(2), 49–52.

Ariyanti, M., & Natali, G. (2017). Respons pertumbuhan bibit kelapa sawit (Elaeis guineensis Jacq.) terhadap pemberian pupuk organik asal pelepah kelapa sawit dan pupuk majemuk NPK. Agrikultura, 28(2), 64–67. https://doi.org/10.24198/agrikultura.v28i2.14955

Badan Pusat Statistik. (2024). Statistik Pertanian 2024. Kementerian Pertanian Republik Indonesia. https://satudata.pertanian.go.id/

Bahar, E., & Muzafri, A. (2022). Pemanfaatan pupuk hayati terhadap peningkatan pertumbuhan dan hasil kacang tanah (Arachis hypogaea L.). Syntax Literate: Jurnal Ilmiah Indonesia, 7(9), 13388–13395. https://doi.org/10.36418/syntaxliterate.v7i9.13388

Dewanto, H. A. (2022). Respon pertumbuhan kultur tunas nodus kentang (Solanum tuberosum) pada penambahan berbagai konsentrasi asam fulvat. Agritech: Jurnal Fakultas Pertanian Universitas Muhammadiyah Purwokerto, 24(1), 116. https://doi.org/10.30595/agritech.v24i1.13946

Effy, R., Gandut, Y. R. Y., & M. K. (2022). Ameliorasi ampas tahu sebagai pupuk organik pada tanaman sawi (Brassica juncea L.). Media Bina Ilmiah, 17(5), 815–822. https://doi.org/10.33578/mbi.v17i5.200

Gunawan, F., & Sulhaswardi. (2021). Pengaruh pupuk bokasi kotoran walet dan NPK Phonska terhadap pertumbuhan serta produksi tanaman kacang tanah (Arachis hypogaea L.). Jurnal Dinamika Pertanian, 37(1), 22–33.

Gunawan, G., Wijayanto, N., & Budi, S. W. (2019). Karakteristik sifat kimia tanah dan status kesuburan tanah pada agroforestri tanaman sayuran berbasis Eucalyptus sp. Journal of Tropical Silviculture, 10(2), 63–69. https://doi.org/10.29244/j-siltrop.10.2.63-69

Hadi, M. A. (2017). Pengaruh pemberian kompos limbah baglog jamur dan pupuk kandang domba terhadap pertumbuhan dan hasil kacang tanah (Arachis hypogaea L.) (Skripsi sarjana, UIN Sunan Gunung Djati). Repositori UIN Sunan Gunung Djati. http://digilib.uinsgd.ac.id/id/eprint/6581

Harlis, Yelianti, U., & Budiarti, R. S. (2019). Pelatihan pembuatan kompos organik metode keranjang Takakura sebagai solusi penanganan sampah di lingkungan kost mahasiswa. Jurnal Pengabdian

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Journal of Agriculture (JoA)
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https://doi.org/10.47709/JoA.v5n03.9747

Kepada Masyarakat, 1(1), 1–8. https://doi.org/10.32332/1598

Imron, A. (2021). Pengaruh kompos ampas tahu dan pupuk TSP terhadap pertumbuhan serta produksi tanaman kacang kedelai (Glycine max L.) (Skripsi sarjana, Universitas Islam Riau). Repositori Universitas Islam Riau.

Kurniawan, I., Afa, L., & Yusuf, N. (2022). Respon pertumbuhan tanaman kacang tanah (Arachis hypogaea L.) pada berbagai dosis bokashi limbah ampas tahu dan pupuk fosfat. Jurnal Agroteknos, 12(1), 28–37.

Lase, E. (2025). Pengaruh pemberian kompos pada kelembapan tanah. PENARIK: Jurnal Ilmu Pertanian Dan Perikanan, 2(1), 80–85.

Lasaiyo, H. A., Febrianti, E., Dewi, W. N. T., & Arsyad, M. A. (2020). Penerapan teknologi kompos pupuk Takakura plus padat limbah kotoran sapi, vegetasi sekunder dan limbah organik rumah tangga dengan sistem intercropping di Desa Lawoila. Jurnal Pasopati, 2(4), 215–220. https://doi.org/10.14710/pasopati.v2i4.9277

Lubis, A., Chaniago, E., & Hutagaol, D. (2022). Trichoderma dan kompos ampas tahu meningkatkan pertumbuhan dan produksi tanaman jagung manis (Zea mays L. Saccharata). AGROFOLIUM, 2(1), 35–39.

Nulhakim, L., Kusnayadi, H., & Suhada, I. (2023). Respon tanaman kacang tanah (Arachis hypogaea L.) terhadap penggunaan sekam padi dan pupuk organik. Jurnal Agrotek, 3(1), 33–45. https://doi.org/10.58406/ja.v3i1.1104

Nuraida, A. E. Y. (2022). The effect of tofu dregs compost and NPK fertilizer on the growth and production of purple eggplant (Solanum melongena L.). Dinamika Pertanian, 38(1), 25–34. https://doi.org/10.25299/dp.2022.vol38(1).10418

Palmasari, B., Amir, N., Paridawati, I., & Tri Astuti, D. (2022). Upaya meningkatkan pertumbuhan dan hasil tanaman melon (Cucumis melo L.) dengan pemupukan organik cair dan anorganik. Jurnal Agroekoteknologi Tropika Lembab, 5(1), 50–55. http://dx.doi.org/10.35941/jatl.5.1.2022.8017.50-55

Putri, K. N. B. (2021). Formulasi komposisi ampas tahu dan singkong terhadap pertumbuhan maggot (Hermetia illucens) (Skripsi sarjana, UIN Raden Intan). Repositori UIN Raden Intan. https://repository.radenintan.ac.id/id/eprint/15890

Rahayu, A., Sari Rahayu, M., & Ernawati Manik, S. (2020). Peran berbagai sumber N terhadap pertumbuhan dan produksi berbagai varietas tanaman kacang tanah (Arachis hypogaea L.). Agriland: Jurnal Ilmu Pertanian, 8(1), 89–93. https://jurnal.uisu.ac.id/index.php/agriland

Rahayu, S., Astar, I., Suyanto, A., Komodor, J., Sudarso, Y., & Luar, S. J. (2026). Pengaruh slow-release organic fertilizer berbasis kotoran ayam terhadap sifat kimia tanah aluvial masam dan pertumbuhan selada (Lactuca sativa L.). Agrikultura, 37(1), 162–174. https://doi.org/10.24198/agrikultura.v37i1.69919

Rahmayuni, E., Septiawan, D., Herman, W., & Putri, E. L. (2023). Efek pemberian kompos ampas tahu terhadap pertumbuhan dan produksi tanaman cabai merah keriting (Capsicum annuum L.). Jurnal Penelitian Pertanian, 8(2), 69–75.

Riskawati, L. M. R. (2023). Analisis indeks produktivitas tanah untuk peningkatan pengembangan kacang tanah di Desa Cimaung, Banten. Jurnal Media Pertanian, 15(1), 10–18.

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https://doi.org/10.33506/md.v15i1.2273

Rozak, A. (2020). Pengaruh dosis pupuk kandang dan jarak tanam terhadap pertumbuhan dan produksi tanaman kacang tanah (Arachis hypogaea L.) di lahan salin. Biofarm: Jurnal Ilmiah Pertanian, 16(2), 45–52. https://doi.org/10.31941/biofarm.v16i2.1175

Sari, E. Y., & Buana, A. S. (2025). Pengaruh penggunaan pupuk kompos terhadap pertumbuhan kacang tanah (Arachis hypogaea) di lahan organik. Jurnal Planta Simbiosa, 7(2), 147–153. https://doi.org/10.25181/jplantasimbiosa.v7i2.4401

Septiani, R. N., & Hermanto, S. R. (2024). The growth of rubber rootstock seedlings by composting tofu pulp. Jurnal Agro Pertanian, 3(2), 282–290. https://doi.org/10.58466/jap.v3i2.16

Siswanto, T., & Melati, M. (2019). Peran pupuk organik dalam peningkatan efisiensi pupuk anorganik pada padi sawah (Oryza sativa L.). Jurnal Agronomi Indonesia, 43(1), 8–14. https://doi.org/10.24831/jai.v43i1.9582

Susilo, E., Parwito, P., & Pujiwati, H. (2019). Perbaikan pertumbuhan dan hasil kacang tanah di tanah Ultisol dengan aplikasi pupuk P dan K. AGRITEPA: Jurnal Ilmu dan Teknologi Pertanian, 6(1), 126–136. https://doi.org/10.37676/agritepa.v6i1.804

Suryanto. (2022). Pengaruh pupuk kandang kambing dan jarak tanam terhadap pertumbuhan dan produksi kacang tanah (Arachis hypogaea L.). Jurnal Pertanian Agros, 24(1), 288–295.

Sutari, W. (2016). Pengaruh konsentrasi pupuk organik cair (POC) dan dosis pupuk N, P, K terhadap pertumbuhan dan hasil tanaman jagung manis (Zea mays L. var. Rugosa Bonaf) kultivar Talenta. Jurnal Kultivasi, 15(3), 208–216. https://doi.org/10.24198/kultivasi.v15i3.11762

Syamsuwirman, & Sari, H. P. (2021). Buku ajar perancangan percobaan agroteknologi. Mai Wandeu Law Office.

Tangahu, I., Azis, M. A., & Jamin, F. S. (2022). Respon pertumbuhan dan produksi tanaman cabai (Capsicum annuum L.) terhadap pemberian beberapa dosis pupuk organik. Jurnal Agroekoteknologi Tropika, 10(2), 112–120.

Taufiq, A. (2024). Unsur hara bagi tanaman kacang tanah dan pengelolaannya. Balai Penelitian Tanaman Aneka Kacang dan Umbi.

Ulya, Z., & Fadlisyah, C. A. (2025). Implementasi metode regresi linier pada pertumbuhan dan hasil panen jagung manis terhadap pemberian pupuk hayati padat. Jurnal Teknologi Terapan, 6(3), 105–112. https://doi.org/10.29103/tts.v6i3.25190

Yusuf, M., Adrianus, A., Sembiring, J., Anwar, A., Malesi, W. O., Rupang, M. S., Rakian, T. C., & Hasid, R. (2024). Aplikasi pupuk organik untuk mengoptimalkan pertumbuhan tanaman sawi di lahan marginal bermikoriza insitu. Jurnal Agrotek Tropika, 12(2), 384–392. https://doi.org/10.23960/jat.v12i2.6044

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