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Application of a Mixture of Rabbit Fertilizer and Manure on Several Varieties of Chilli (Capsicum Frutescens L.) on Plant Growth And Yield

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A B S T R A C T

This research aims to obtain the best mixture of rabbit fertilizer with manure and the response to the best chili varieties. This research is a factorial experiment, with a basic randomized block design (RAK) with 2 factors being tried. The first factor with 3 levels: K 0 = no manure, K 1 = rabbit manure + cow manure, K 2 = rabbit manure + chicken manure. Second factor with 3 chili varieties: V1= Rawita, V2= Ori 212, V3= Caliber and repeated 3 times. K1 gave the highest value for the fresh weight of harvested fruit per plant, namely 250.63 g. The Caliber V3 variety gave the highest value for the fresh weight of harvested fruit per plant, namely 252.87 g.

INTRODUCTION

The COVID-19 pandemic caused a significant decline in community activities, particularly in Bali. However, as conditions gradually return to normal and the government introduces policies easing restrictions, the tourism industry in Bali, one of the world's most popular destinations, is showing signs of recovery. This resurgence provides hope for revitalizing tourism-related activities, a critical source of income for the Balinese people. Moreover, the tourism sector's revival has also spurred growth in the agricultural sector, especially in meeting the increased demand for horticultural products. Chili is one of Indonesia's most essential horticultural crops, with consistently high market demand during both pandemic and normal periods. However, chili availability in the market is influenced by several factors, including low production levels, environmental challenges, natural disasters, and the rising demand for diversified processed chili products. Despite these challenges, the strong demand for large chilies (Capsicum annuum L.) and small chilies (Capsicum frutescens L.) presents a significant opportunity to bridge the supply-demand gap. This can be achieved through the adoption and enhancement of advanced plant cultivation technologies, ensuring sustainable growth for the agricultural and tourism sectors alike.

One of the key aspects of plant cultivation techniques is fertilization, which can be derived from both organic and inorganic sources. Fertilizers generally supply essential nutrients such as nitrogen (N), phosphorus (P), and potassium (K), which are crucial for plant growth and development. Sobir and Siregar (2014) emphasize that these elements are the primary nutrients required for optimal plant growth. The availability of various solid organic fertilizers on the market opens opportunities to provide chili plants with nutrients that contribute to soil health. Rabbit manure, a byproduct of rabbit farming, is one such resource. If left untreated, rabbit manure can pose environmental risks. However, when processed through fermentation, it can serve as a valuable source of nutrients for plants. Sajimin et al. (2005) highlight the potential of rabbit manure as organic fertilizer due to its relatively high nutrient content compared to other livestock manure, with a C/N ratio of 10–12%, phosphorus (P) at 2.20–2.76%, potassium (K) at 1.86%, and calcium (Ca) at 2.08%.

Effective and efficient use of solid rabbit manure as fertilizer depends on applying the appropriate dosage. Its high nutrient content offers advantages, but a potential challenge arises from limited raw material availability, as rabbit farming remains relatively small-scale. To address this limitation and enhance fertilizer efficiency, integrating additional sources such as cow and chicken manure into rabbit manure is a viable alternative. According to Ghani (2021), chicken manure contains nitrogen (N) at 1%, phosphorus (P) at 0.8%, and potassium (K) at 0.4%, while cow manure contains nitrogen (N) at 0.4%, phosphorus (P) at 0.2%, and potassium (K) at 0.17%. Blending these manures allows for optimizing nutrient content while ensuring sustainable and effective fertilization for chili cultivation. The availability of diverse chili varieties on the market, each with distinct characteristics and advantages, offers buyers the flexibility to choose according to their preferences. Research by Setiawan et al.

(2012) found significant differences in growth and seed yields among five red chili varieties cultivated in middle plains. The curly red chili variety Lembang-1 demonstrated the best growth and highest fruit yield (10.22 tons/ha), followed by Kusuma (8.71 tons/ha) and Lokal Pakem (7.37 tons/ha). Among large red chili varieties, Gantari yielded the highest fruit production (8.5 tons/ha), outperforming the Branang variety (6.5 tons/ha). These variations highlight the need for enhanced cultivation practices, such as optimized fertilization, and the identification of superior chili varieties currently available.

Further research by Marveldani et al. (2018) revealed that using silver-black plastic mulch and paranet plastic mulch during transplantation could significantly increase fruit weight per plant, particularly in the Columbus, Arimbi, and Lado varieties. This underscores the importance of combining effective cultivation techniques with the selection of high-performing chili varieties. To ensure sustainable agricultural practices, organic fertilization is essential for minimizing soil degradation. Utilizing organic fertilizers, such as those derived from rabbit, cow, and chicken manure, can improve soil health while meeting the nutrient requirements of chili plants. Aligning with Warmadewa University's vision of ecotourism, integrating appropriate agricultural technologies—including the application of high-quality organic fertilizers and the cultivation of suitable chili varieties—can lead to optimal outcomes in terms of quality, quantity, and sustainability.

LITERATURE REVIEW

Adding organic matter is an essential step in improving the plant-growing environment and optimizing the benefits of fertilizers. Soils deficient in organic content often have reduced buffering capacity and fertilizer efficiency, as nutrients can easily be lost from the root zone. Ruminta et al. (2017) demonstrated that applying 5 tons/ha of rabbit manure independently yielded the best results for panicle length, panicle weight per clump, and seed weight per plant in sorghum (*Sorghum bicolor [Linn] Moench*) cultivated in Jatinangor's rainfed fields. Additionally, a combination of 5 tons/ha of rabbit manure and 7.5 ml of rabbit urine per plant showed the most significant independent effect on shedding yield. Setiawan et al. (2012) emphasized that chili varieties exhibit varied growth and yield potentials. Among curly red chili varieties, *Lembang-1* demonstrated the best growth and fruit yield (10.22 tons/ha), followed by *Kusuma* (8.71 tons/ha) and *Lokal Pakem* (7.37 tons/ha). In large red chili varieties, *Gantari* outperformed *Branang* with a yield of 8.5 tons/ha compared to 6.5 tons/ha. These findings highlight the critical role of selecting the appropriate variety and incorporating organic fertilizers for improved productivity.

Manure positively influences soil's physical properties when applied consistently. It increases organic matter, enhances water retention, and supports nutrient absorption by plant roots, facilitating growth and development (Sari, 2011). Furthermore, Setyamidjadja (1986) noted that manure improves soil fertility by enriching organic matter (humus), fostering soil microorganisms, and mitigating erosion-related damage. Zulkarnain (2009) advocates prioritizing the use of organic fertilizers not only to enhance soil fertility but also to establish a sustainable and safe agroecosystem for human health. Integrating organic fertilization with strategic variety selection ensures optimal plant growth and contributes to long-term environmental sustainability. This approach aligns with modern agricultural practices that prioritize productivity, soil health, and ecosystem stability.

Rabbit droppings, like other animal waste, can serve as a valuable source of organic fertilizer. Proper management of rabbit manure is essential to maximize its potential benefits for agricultural purposes. Solid rabbit manure, composed of feces, can be generated in significant quantities. For instance, a rabbit over two months old or weighing at least 1 kg produces approximately 28 g of soft feces daily, containing 3 g of protein and 0.35 g of nitrogen derived from bacteria, equivalent to 1.3 g of protein (Spreaadburi and Yono C. Rahardjo, 1978 in Erika Dewi and Paiman, 2011). Numerous studies have demonstrated the effectiveness of rabbit manure as organic fertilizer. Sajimin et al. (2005) reported that rabbit manure increased the production of potato and cabbage crops by an average of 23.5% compared to sheep manure. However, it remained lower than the 39.7% increase achieved with chicken manure or chemical fertilizers used by farmers. In another study, Wirajaya et al. (2022) found that applying solid rabbit manure significantly impacted the number of fruits per plant, fresh fruit weight per plant, and overall production per hectare. The application of 30 tons/ha of solid rabbit manure yielded the highest production at 6.10 tons, representing increases of 11.93% and 9.71% compared to applications of 10 tons/ha and 20 tons/ha, respectively.

These findings highlight the potential of rabbit manure as an effective organic fertilizer. By incorporating appropriate management and application techniques, rabbit manure can contribute to sustainable agricultural practices, enhancing crop productivity while reducing reliance on chemical inputs. Research findings indicate that the application of manure significantly impacts soil fertility and crop productivity. Ribeiro et al. (2017) identified 30 tons/ha of cow manure as the optimal dose for improving soil organic carbon and enhancing soil fertility, resulting in increased plant yields, particularly dry seed weight per plant. Wijayanti et al. (2013) demonstrated that combining cow, goat, and chicken manure with 200 kg/ha of urea resulted in superior chili growth and yield compared to other combinations of manure and urea doses. Prasetyo (2014) found that applying 90 tons/ha of cow manure produced the highest red chili yield (302.58 grams per plant), comparable to 36 tons/ha of chicken manure.

Murniati (2022) observed a significant effect of chicken manure on the growth of cayenne pepper, particularly fruit weight per plant. The application of 20 tons/ha of chicken manure produced the best results, with plant height reaching 45.8 cm, 9.3 vegetative branches, and 22 productive branches. Similarly, Silalahi et al. (2018) found that 6.5 tons/ha of chicken manure improved plant height, leaf number, and leaf length in sorghum. Polii et al. (2022) highlighted that 10 tons/ha of goat and chicken manure yielded the highest plant height and number of chili fruits. Chili cultivation in Indonesia continues to utilize select varieties adapted to local conditions for better yields and resistance to pests and diseases. Suparwoto et al. (2021) reported that the *Lembang-1* variety produced the highest yield (11 tons/ha), followed by *Ayu* (9.8 tons/ha), *Tanjung-2* (9.5 tons/ha), and *Inata Agri Horti* (3.8 tons/ha). Mebinta et al. (2020) noted that applying 75 ml/l of POC bamboo shoots significantly influenced cayenne pepper growth, including flower count and fruit weight. Septiana and Islami (2018) concluded that *Pilar F1* and *Jet Set F1* varieties, combined with 15 tons/ha of cow manure, produced the highest yields. Lastly, Setiyani et al. (2023) observed significant differences among chili varieties regarding flowering time, fruit count, fruit weight, and fruit dimensions, with the *Lado F1* variety performing best overall.

These findings emphasize the critical role of selecting appropriate chili varieties and optimizing organic manure application to improve productivity and sustainability in chili cultivation.

METHODOLOGY

The experiment was conducted in Subak Pacung, Selat Village, Abiansemal District, Badung Regency, at an altitude of 400 meters above sea level, from January to August 2024. The research employed a factorial experimental approach using a Randomized Block Design (RBD) with two factors. The first factor examined different mixtures of rabbit manure: $\mathbf{K_0}$ (no manure), $\mathbf{K_1}$ (rabbit manure + cow manure), and $\mathbf{K_2}$ (rabbit manure + chicken manure). The second factor involved chili varieties: $\mathbf{V_1}$ (*Rawita* variety), $\mathbf{V_2}$ (*Ori 212* variety), and $\mathbf{V_3}$ (*Kaliber* variety). The planting distance used was 50 x 50 cm within plots measuring 1.5 x 3.0 m, with 60 cm between plots and 40 cm within plots. This setup resulted in 9 combination treatments, each replicated 3 times, yielding a total of 27 experimental units.

Observations were focused on the following variables: maximum plant height, maximum number of leaves, number of flowers, total fruit count, number of harvested fruits, fresh and oven-dry fruit weight, fresh and oven-dry stover weight, and fresh and dry root weight. This experimental design aims to evaluate the interaction between manure mixtures and chili varieties, providing insights into their influence on growth, yield, and overall plant productivity.

RESEARCH RESULT AND DISCUSSION

Table 1. Significance of "Application of a Mixture of Rabbit Fertilizer with Manure on Several Varieties of Chili (Capsicum frutescens L.) on Plant Growth and Yield"

No.	Variable	Treatment		
		Rabbit Fertilizer Mix (K)	Variety (V)	Interaction (K x V)
1	Maximum plant height (cm)	ns	ns	ns
2	Number of leaves per plant (pieces)	**	*	ns
3	Number of flowers formed per plant (florets)	**	ns	ns
4	Total number of fruits per plant (fruit)	**	ns	ns
5	Number of harvested fruit per plant (fruit)	**	*	ns
6	Fresh weight of harvested fruit per plant (g)	**	**	ns
7	Dry weight of harvested fruit per plant (g)	*	*	ns
8	Fresh weight of stover per plant (g)	*	ns	ns
9	Dry weight of stover per plant (g)	ns	ns	ns
10	Fresh weight of roots per plant (g)	*	ns	ns
11	Root dry weight per plant (g)	**	ns	ns

Note: ns = no real effect (P≥0,05)
**= very real influence (P<0,01)
*= real effect (P<0,05)

Table 1 illustrates the results of the interaction between the solid rabbit fertilizer mixture (K) and chili varieties (V) on the observed variables. The interaction of these factors showed no significant effect (P > 0.05) across all variables. However, the type of manure combined with rabbit fertilizer significantly influenced several growth and yield parameters. The addition of rabbit fertilizer mixed with cow and chicken manure had a very significant effect (P < 0.01) on variables such as the number of leaves, number of flowers, number of fruits per plant, number of harvested fruits, fresh fruit weight per plant, and root dry weight per plant. The variety treatment also demonstrated a very significant effect (P < 0.01) on the fresh fruit weight per plant.

Furthermore, the application of rabbit fertilizer combined with cow and chicken manure had a significant effect (P < 0.05) on fresh stover weight per plant, dry fruit weight per plant, and fresh root weight per plant. Varietal differences significantly influenced (P < 0.05) the number of leaves per plant, number of harvested fruits per plant, and dry fruit weight per plant. These results highlight the importance of selecting appropriate fertilizer combinations and chili varieties to optimize plant growth and yield.

Table 2.Average Plant Height (Cm), Number of Leaves Per Plant (Strands), Number of Flowers Formed Per Plant (Florets), Total Number of Fruit Per Plant (Fruit), Number of Harvested Fruit Per Plant (Fruit) Rabbit Fertilizer Mixture Treatment (K) and Several Chili Varieties (V)

Variable / Treatment	Plant Height (cm)	Number of leaves per plant (strand)	Number of flowers per plant (flower)	Number of fruits total per plant (fruit)	Number of harvested fruit per plant (fruit)
Fertilizer Mix					
K0	95,88 a	282,33 a	348,94 a	273,38 a	86,55 a
K1	106,22 a	361,16 b	447,22 b	348,94 b	131,22 b
K2	104,77 a	340,44 b	472,16 b	367,66 b	128,55 b
BNT 5%	-	52,76	62,23	46,28	28,50
Variety					
V1	104,50 a	309,33 a	416.22 a	320,50 a	109,88 ab
V2	98,61 a	306,94 a	400,50 a	319,22 a	101,22 a
V3	103,77 a	367,66 b	451,61 a	350,27 a	135,22 b
BNT 5%	-	52,76	-	-	28,50

Note: The average value followed by the same letter for the same treatment means that the difference is not significant at the 5% BNT test level.

Table 3. Average Fresh Weight of Harvested Fruit Per Plant (G), Dry Weight of Harvested Fruit Per Plant (G), Fresh Weight of Stover (G), Dry Weight of Stover (G), Fresh Weight of Roots (G), Dry Weight of Roots (G) Treatment With a Mixture of Rabbit Fertilizer (K) and Several Chili Varieties (V)

Variable / Treatment	Fresh weight of harvested fruit per plant (g)	Dry weight of harvested fruit per plant (g)	Fresh weight of stover (g)	Dry weight safe (g)	Fresh weight of roots (g)	Root dry weight (g)
Fertilizer Mix						
K0	187,60 a	42,71 a	284,32 a	84,85 a	16,31 a	6,24 a
K1	250,63 b	59,31 b	427,34 b	110,86 a	23,82 a	8,12 b

K2	238,81 b	51,98 ab	387,09 b	91,53 a	22,80 a	7,87 b
BNT 5%	17,91	13,21	100,82	-	-	1,22
Variety						
V1	208,70 a	43,35 a	357,08 a	96,76 a	20,49 a	7,32 a
V2	215,45 a	51,03 ab	356,04 a	88,49 a	20,38 a	7,33 a
V3	252,87 b	59,62 b	385,62 a	102,00 a	22,06 a	7,59 a
BNT 5%	17,91	13,21	-	-	-	-

Note: The average value followed by the same letter for the same treatment means that the
difference is not significant at the 5% BNT test level.

The results of the statistical analysis showed that the interaction between the application of a mixture of rabbit fertilizer and manure on several varieties of chili (*Capsicum frutescens* L.) on plant growth and yield had an insignificant effect ($P>0.05$) on all observed variables.

The combination of solid rabbit fertilizer and cow manure (K1) gave the highest average values for the variables, namely plant height, number of harvested fruit, fresh weight of fruit, fresh weight of stover, dry weight of stover, fresh weight of roots, dry weight of roots. The testing treatment of several varieties showed that the Kaliber (V3) variety had the highest average variable value in the number of leaves per plant (ystrand), number of flowers per plant (bud), total number of fruit per plant (bh), number of harvested fruit per plant (bh) , fresh weight of harvested fruit per plant (g), dry weight of harvested fruit per plant (g), fresh weight and dry weight of stover (g), dry weight of roots (g).

The increase in the maximum number of harvested fruits in the K1 treatment was positively correlated with several growth variables, such as plant height (r = 0.997**), number of leaves (r = 0.979**), number of flowers (r = 0.970**), total number of fruits (r = 0.971**), fresh fruit weight (r = 0.992**), dry weight of fruit (r = 0.920**), fresh weight of stover (r = 0.975**), dry weight of stover (r = 0.736*), fresh root weight (r = 0.997**), and root dry weight (r = 0.998**) (Table 4). Treatment K1 showed a maximum plant height of 119.46 cm, which was an increase of 9.83% compared to K0 (106.22 cm) (Table 2).

Animal-based manure, such as from rabbits, cows, and chickens, contains high nitrogen levels, which, as organic fertilizers, promote plant growth and accelerate height development. The highest maximum number of leaves was observed in K1 treatment (361.16 leaves), showing an increase of 28.08% compared to K0 (282.33 leaves) (Table 2). The increase in plant height, number of leaves, and other yield components such as the number of flowers, total fruits, number of harvested fruits, and the fresh and dry weight of fruit and roots, contributed to the higher fresh fruit weight in K1. Hendriyatno et al. (2019) noted that nitrogen plays a crucial role in plant growth by stimulating vegetative growth, increasing twig number, leaf area, root development, and promoting flower and fruit formation, while also supporting protein synthesis.

The success of increasing the fresh weight of harvested fruit is largely attributed to the use of solid rabbit fertilizer mixed with cow dung, which enhances soil conditions, increases organic matter retention, improves water retention, boosts nutrient absorption, and enhances cation exchange capacity. This, in turn, increases soil metabolism and porosity, making nutrients more accessible for plant growth.The high level of variable support observed from the application of a rabbit fertilizer and cow dung mixture, resulting in the highest fresh weight of harvested fruit in K1 (250.63 g), is closely related to the combined role of the NPK elements found in both fertilizers. These nutrients provide significant support for both vegetative and generative growth in chili plants. Oga and Umekwe (2015) found that the application of NPK fertilizer significantly affected plant height, flower count, fruit number, and the marketable fruit yield in melons. The role of each element—nitrogen (N), phosphorus (P), and potassium (K)—is crucial for plant growth and production. Nitrogen is essential for vegetative growth and protein formation, phosphorus aids in root, flower, and fruit development, and potassium strengthens plant tissues and supports root development and physiological processes.

This research confirmed that the application of the rabbit and cow manure mixture led to a fresh weight of harvested fruit of 250.63 g, which represents a 4.95% and 33.60% increase compared to the chicken manure mixture (238.81 g) and the no-fertilizer control (187.60 g), respectively. Similar findings were reported by Wirajaya et al. (2023), who observed that the highest chili production per hectare came from the rabbit fertilizer formulation combined with cow manure, yielding 7.30 tons/ha—significantly outperforming the K1 treatment (5.55 tons/ha) by 5.5% and the K3 treatment by 31.53%.

These results underscore the positive impact of rabbit manure, which is rich in macro-elements (N, P, K), on plant metabolism and growth. This was further supported by Ahmad (2016), who highlighted the benefits of rabbit compost fertilizer in improving soil fertility by providing essential nutrients and stimulating plant growth. The use of cow manure was also shown to enhance soil pH and phosphorus uptake, improving plant growth and productivity (Amijaya et al., 2015). As Susilawati (2019) pointed out, although phosphorus is present in smaller amounts than nitrogen and potassium, it plays a critical role in the survival and overall health of plants, alongside the other essential nutrients.

The treatment of different chili varieties in this study revealed that the Caliber V3 variety (Kaliber) exhibited the highest fresh weight of harvested fruit per plant. This was strongly supported by the number of leaves (r=0.984**), number of flowers (r=0.902**), total number of fruits (r=0.984**), number of harvested fruits (r=0.925**), dry weight of fruit (r=0.940**), fresh weight of stover (r=0.985**), dry weight of stover (r=0.700*), fresh weight of roots (r=0.980**), and root dry weight (r=0.996**). These results suggest that the Kaliber variety performed better than the other varieties tested, particularly in terms of growth and fruit yield.

The highest fresh weight of harvested fruit per plant in the Caliber V3 variety was 252.87 g, reflecting an increase of 17.37% compared to the Ori 212 variety (215.45 g) and 21.16% compared to the Rawita variety (208.70 g). The advantages of the Caliber variety include better resistance to weather fluctuations, greater adaptability to soil fertility levels, and higher resistance to pest and disease attacks, making it a more robust choice compared to other varieties. Similar findings were observed in other research studies. Setiawan et al. (2012) noted that red chili varieties exhibit varying growth and yield performances, with the curly red chili variety Lembang-1 producing the highest yield of 10.22 tons/ha. Septiana and Titiek Islami (2018) concluded that the combination of the Pilar F1 variety with 15 tons of cow manure per hectare resulted in the highest fruit yield. Likewise, Setiyani et al. (2023) found significant differences in growth characteristics between varieties, with the Lado F1 variety being the best in terms of fruit weight and size, while other traits such as plant height and root length did not show significant variation.

These studies highlight that the choice of chili variety plays a significant role in determining growth, fruit yield, and overall plant health. The superior performance of the Caliber variety in this research underlines its potential for high fruit yield and resilience, making it a promising candidate for chili cultivation.

Table 4. Correlation Correlation Coefficient Values between Plant Variables Effect of Addition Types of Manure (K)

	1	2	3	4	5	6	7	8	9	10	11
1	1										
2	0.992**	1									
3	0.949**	0.901**	1								
4	0.950**	0.903**	1.000**	1							
5	0.997**	0.979**	0.970**	0.971**	1						
6	0.999**	0.997**	0.932**	0.934**	0.992**	1					
7	0.947**	0.980**	0.797*	0.799**	0.920**	0.961**	1				
8	0.989**	1.000**	0.892**	0.894**	0.975**	0.995**	0.984**	1			
9	0.785*	0.857**	0.549ns	0.552ns	0.736*	0.814**	0.942**	0.867**	1		
10	1.000**	0.992**	0.950**	0.951**	0.997**	0.999**	0.946**	0.989**	0.783*	1	
11	1.000**	0.991**	0.951**	0.952**	0.998**	0.999**	0.945**	0.988**	0.781*	1.000**	1

r (0,05,9,1) = 0,666 r (0,01,9,1) = 0,798

Table 5. Correlation Coefficient Values between Variables for Several Chili Plant Varietas (V)

	1	2	3	4	5	6	7	8	9	10	11
1	1										
2	0.431^{ns}	1									
3	0.656^{ns}	0.964^{**}	1								
4	0.433^{ns}	1.000^{**}	0.964^{**}	1							
5	0.612^{ns}	0.977^{**}	0.998^{**}	0.978^{**}	1						
6	0.265^{ns}	0.984^{**}	0.902^{**}	0.984^{**}	0.925^{**}	1					
7	-0.08^{ns}	0.865^{**}	0.699^{*}	0.864^{**}	0.739^{*}	0.940^{**}	1				
8	0.428^{ns}	1.000^{**}	0.963^{**}	1.000^{**}	0.977^{**}	0.985^{**}	0.866^{**}	1			
9	0.874^{**}	0.815^{**}	0.940^{**}	0.816^{**}	0.919^{**}	0.700^{*}	0.414^{ns}	0.813^{**}	1		
10	0.453^{ns}	1.000^{**}	0.970^{**}	1.000^{**}	0.982^{**}	0.980^{**}	0.852^{**}	1.000^{**}	0.829^{**}	1	
11	0.352^{ns}	0.996^{**}	0.937^{**}	0.996^{**}	0.956^{**}	0.996^{**}	0.905^{**}	0.997^{**}	0.762^{*}	0.994^{**}	1
	r (0,05,9,1) = 0,666						r (0,01,9,1) = 0,798				

Information :
1).Plant Height ,2).Number of Leaves ,3).Number of Flowers ,4).Number of Total Fruit ,5).Number of Harvested Fruit ,6).Fresh Weight of Fruit , 7).Dry Weight of Fruit ,8).Fresh Weight of Brangkasan ,9).Dry Weight of Brangkasan ,10).Fresh Weight of Roots ,11).Dry Weight of Roots
ns = The effect is not significant (P>0.05) , *= Significant effect (P<0.05), **= Very significant effect (P<0.01)

CONCLUSIONS AND RECOMMENDATIONS

The conclusions from the results of this research are as follows:

1. The interaction between a mixture of rabbit fertilizer and cow and chicken manure and the treatment of several varieties had an insignificant influence on all observed variables.
2. The highest fresh weight of harvested fruit per chili plant was obtained from a mixture of rabbit fertilizer with the addition of K1 cow fertilizer, namely 250.63 g, not significantly different from K2 with a value of 238.81 g and significantly different from K0 with a value of 187.60 g and K3 experienced increases of 4.95% and 33.60% respectively.
3. The Caliber V3 variety gave the highest fresh weight of harvested fruit, namely 252.87 g and was significantly different from the treatment of the Rawita V1 variety and the Ori 212 V2 variety with values of 208.70 g and 215.45 g respectively, where V3 increased by 21. 16% and 17.37%.

ADVANCED RESEARCH

Further research needs to be carried out to provide the efficiency and effectiveness of manure by trying to compare rabbit fertilizer with manure other than cow and chicken fertilizer which is more varied.

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