

Comparative Evaluation of Effects of Organic and Inorganic Fertilizer on the Growth Rate and Adaptability of Asian Eggplant in Nsukka¹Ogbonna, E. K., ²Ekwueme, S. U., ³Nwoye E. G.^{1,2,3} Department of Agricultural Education, Faculty of Vocational and Technical Education, University of Nigeria, Nsukka.**Corresponding Author:** Ogbonna, E. K., emeka.ogbonna@unn.edu.ng**Abstract**

The study adopted experimental research design, specifically randomized complete block design with three replications. Experimental research design is appropriate for this study because it deals with observing phenomenon and taking record of the necessary parameters. The experiment was conducted at the University of Nigeria, Nsukka's research farm, within the Agricultural Education Department, Faculty of Vocational and Technical Education. Geographically, Nsukka while the second location of the experiment was located at Ohom Orba in Udenu LGA of Enugu State. The population for the study was 120 stands of Asian egg plants. There wo locations with control group and each of them was replicated three times. The sample size for the study was 90 seeds of Asian egg plants. Purposive sampling techniques were used to select 90 healthy Asian egg plants seeds used for the study. Recording templates was developed by the researcher to capture data on leaf size, plant height, and seed emergence, among other variables. The instrument for data collection was subjected to face validation by two experts. One expert from the Department of Crop Science, Faculty of Agriculture, University of Nigeria, Nsukka, and the other from the Department of Agricultural Education, University of Nigeria, Nsukka, were reviewed the instrument to ensure that the items align with the study's purpose and research questions. The experts' feedback and suggestions were incorporated to produce the final draft of the instrument. Data collected were analyzed using mean and standard deviation. Findings indicated that Asian eggplant partially adapted to environment with organic manure enhancing more adaptability that the inorganic manure or the control group.

Keywords: Organic Fertilizer, Inorganic Fertilizer, Growth Rate, Adaptability, Asian Eggplant, Nsukka**Introduction**

Agriculture refers to the practice of cultivating soil, growing crops, and raising animals for food, fiber, and other products used to sustain and enhance human life. It encompasses various activities such as planting, harvesting, livestock management, and food processing. Agriculture is fundamental to economies and societies, providing essential resources and employment. Agriculture is a broad term that consists an activity that involves farming, cultivation, animal rearing, and fish harvesting (Ali et al 2014). Agriculture is mostly made of animal husbandry and crop production (Datta et al 2023). The animal production involves the rearing of the livestock which comprises cattle farming, pigs farming or the mini livestock farming.

Crop production is the process of cultivating and harvesting fields or vegetables crops for food, fiber, fuel, and other man uses. It comprises those various activities such as the preparation of the soil, planting of crops, nurturing, and harvesting crops. The major aim of crop production is to maximize yield and quality while considering resources and environmental impacts effectively (Smith, 2024). The aims of crop production are the provision of quality food for man's satisfaction, and maximum yield while considering resources and environmental impacts (Abbas et al 2021). Crop production is majorly classified

based on field and vegetables crop. The field crops are those grown in large mass of lands under an open field. They are mostly cultivated for their economical values example's cereal crops, root and tuber crops, oil seeds and fibre crops (Davi et al 2020).

Vegetable crops refer to plants that are primarily grown for their consumable components, including roots, stems, leaves, flowers, or fruits, which are intended for human consumption (Taiwo 2021). These crops are cultivated on a smaller scale than field crops and are usually harvested for their nutritional benefits and culinary applications. Some examples of vegetable crops include leafy vegetables, fruit vegetables, bulb vegetables, podded vegetables. Fruit vegetables refer to plant parts that develop from the flower of the plant and contain seeds, but are used in savory dishes similar to vegetables (Fabio et al, 2018). They include the Solanum, cucumbers, legumes etc. The solanum family of fruit vegetables are the, tomatoes, peppers and eggplants.

Eggplant (*Solanum melongena* L.) is one of the most important herbs among vegetable crops belongs to Solanaceae family; usually have a semi-spreading habit. There is a wide variation in the fruit shape and color among the various varieties of eggplant. Eggplant is thought to be originated from India (Cebeci et al 2023) considerably most popular and commercially important crop of Asia (Agbo et al 2017). In Pakistan, eggplant is grown over 9044 hectares area with the estimated production of about 91126 tones (MINFAL, 2013). Fruits of eggplant are supplemented with sufficient number of starches, proteins, minerals, vitamins, dietary fibers and low-fat content (Zenia and Halina, 2018) high phenolic compounds. Fruits are mainly used for cooking and pickling which aids in digestion, lowering high blood pressure, prevents constipation while its green leaves are the good aphrodisiac, laxative and effective tonic for liver problems (Kashyap *et al.*, 2014). Eggplant is a summer vegetable crop which grows throughout the year under the optimum temperature of 22-30°C, while at 17°C its growth is inhibited (Adamczewska-Sowinska and Krygier, 2019). Its performance is successful on well drained and wide range of soil types having 5.5-6.5 pH (Abbas *et al.*, 2021).

There are different types of eggplant which comprises the globe eggplant, Italian eggplant, Japanese eggplant and Asian eggplant (Aminifard et al 2020). Asian eggplant (*Solanum Melongena* L) scientifically known as *Solanum melongena* and commonly referred to as aubergine or brinjal, is a significant agricultural crop with considerable economic value, particularly in South and Southeast Asia as well as the Mediterranean region (Ghasem et al 2014). It is among the species of eggplant, which falls under the vegetable category of plants. Asian eggplants are native to Asia and have been in existence for thousands of years on record (Ulla et al 2018).

Asian eggplant (*S. melongena*) serves as a vital vegetable crop, especially in the Mediterranean, the Middle East, and Southern/Southeast Asia. It ranks as the third most cultivated species within the Solanaceae family, following tomato and potato, with an area of approximately 1.86 million hectares and a global production of 52.3 million tons reported in 2017 (FAO 2017). Unlike its New World relatives, such as tomato and potato, the Asian eggplant was domesticated in the Old World, likely in regions corresponding to present-day Malaysia, Thailand, and Vietnam (Smith, 2024).

For an Asian eggplant to grow well, it requires fertilizer which helps to boost its adaptation, growth rate etc (Rashmi, 2018). The cultivation of Asian eggplant requires adequate provision of suitable nutrients to ensure sustainable and high-quality yields (Sultana, 2022). Fertilizer plays a crucial role in Asian eggplant production by enriching soil fertility and crop yield (Walking, 2020). It is vital to enhance production using a range of procedures as agricultural demand rises with an increase in population. Fertilizers, which are the most regular crop growth procedures, are used to increase production (Karne, 2023). It can be an organic or inorganic fertilizer depending on its effect, availability to the Farmers, cost and other considerable factors on which medium the plants grow and adapt well in.

Organic farming is biological farming in an agri-system that involves the use of fertilizers of organic origins such as farmyard manure, cow dung, green manure, bone meal etc. It involves the use of natural materials in boosting farming which does not affect the microorganisms in the soil environments. Organic farming is a system of production management that excludes all synthetic external inputs, relying instead on agronomic, biological, and mechanical techniques available on the farm. These methods include the application of crop residues, the use of animal manures, the incorporation of organic waste from off-farm

sources, and other natural fertilizers that support microbial life (Meena,2014). Organic agricultural production operations enable the cycling of resources to conserve and promote ecological balance. The effective use of green manure and animal manure to impede the habitation of pests and diseases, enhance soil fertility, and maximize the soil's biological activity are the basic aspects of organic farming.

Organic manure contains essential nutrients such as nitrogen, phosphorus, potassium, and micronutrients. These nutrients are gradually released, supporting healthy plant growth without the risk of nutrient runoff enhancing soil structure, improving water retention capacity, and encouraging beneficial microbial activity. This leads to better aeration, drainage, and overall soil fertility. In contrast to synthetic fertilizers, organic manure decreases the likelihood of soil and water pollution due to its natural composition. It also aids in reducing greenhouse gas emissions (Walking & Hante,2020). Organic manure promotes sustainable agricultural practices by recycling organic matter, decreasing reliance on chemical inputs, and preserving long-term soil productivity. Nutrients in organic manure are released gradually as the organic matter decomposes, providing a consistent nutrient supply to plants and minimizing nutrient leaching. It can be locally produced and on-farm, utilizing various organic materials that would otherwise be considered waste products, thereby reducing costs and environmental impact (Singh,2021). Organic manure compost provides numerous advantages such as improved crop yield, boosted soil health, and expanded soil carbon storage (Liu, yang, Hu, Li,2024). Apart from organic manure, inorganic manure is also used to enrich the soil.

Inorganic farming also known as Synthetic fertilizers, are produced using non-organic chemicals and lack organic matter. They have the potential to enhance crop productivity and enhance soil fertility. They are man-made manures produced to help farmers overcome the unavailability or scarcity of organic waste, especially for commercial farmers. Synthetic fertilizers are commonly easier to use and more easily obtainable than organic fertilizers, thus providing a more convenient choice for farmers. Nitrogen fertilizers such as ammonium nitrate, urea, and ammonium sulfate which is essential for providing plants with the necessary nitrogen for growth and Phosphorus fertilizers like superphosphate, ammonium phosphate, and triple superphosphate, which are crucial for supplying plants with phosphorus, a vital nutrient for plant development are Common utilized synthetic fertilizers in agriculture. They can also have negative impacts on the environment and the crop most especially on the storage lifespan if they are overused or misused. The use of synthetic fertilisers in agriculture is a crucial source of anthropogenic Greenhouse Gas (GHG) emissions, especially concentrated nitrous oxide (N₂O) (Zhang, Lianhai , Jebari & Collins, 2024).

Organic and inorganic fertilizers are crucial in crop production. They enhance the crop yield and storage life span. Organic and inorganic fertilizers are important for crop productivity and soil health (Mahmood,2017). To maximise yield in Asian eggplant production, organic and inorganic fertilizer plays an integral role (Walking,2020). The addition of organic or inorganic manure promotes Asian eggplant's growth rate and adaptation (Ghosh, Dutta & Chattopadhyay,2015). Organic and inorganic fertilizers can be used in crop production depending on the soil properties and location.

Nsukka as a geographic area is growing enormously in its population lately. Because of the multiple developments in both educational sectors and markets, with its friendly environment, many foreigners have been migrating down to Nsukka. There is a great increase in the population of the citizenry in Nsukka due to the immigration rate (Nzeh, Eboh, Uba, Orebiyi, Nweze, Okpukpara & Omeye, 2018). Research indicates that 60 percent of households in Nsukka experience food insecurity (Arene and Anyaeji, 2014). Within the Nsukka metropolitan zone, studies have demonstrated that food insecurity constitutes a significant challenge in the region (Obetta, Mukaila, & Williams, 2022). The primary factors contributing to food insecurity in Nsukka include elevated food prices, low agricultural yields, inadequate nutritional information regarding food, and insufficient income to purchase food (Obetta et al., 2022). On average, households in Nsukka allocate approximately 10.7 percent of their weekly income to vegetables, highlighting a substantial demand for these products in the local market. It is based on this backdrop that this research sought to ascertain the comparative evaluation of the effects of organic and inorganic fertilizer on the growth rate and adaptability of Asian Eggplant in Nsukka.

Statement of the Problems.

Food insecurity in Nsukka is becoming increasingly concerning, as the rising cost of food and the limited availability of food vegetables such as tomatoes pose significant challenges for the growing population. This situation underscores and highlights the urgent and pressing need for alternative food sources. The production of Asian eggplant has not garnered the same level of research attention as other foreign crops, such as green beans, green peppers, and cabbage. Despite its high nutritional value and culinary versatility (being suitable for roasting, stews, porridge, or consumption in its raw form), yet, farmers remain hesitant to engage in its cultivation because they lack knowledge and information regarding the crop's adaptability in Nsukka, its ability to withstand local weather conditions, resistance to pests and insects, and its potential for germination in the region's soil.

Agricultural farming in Nsukka is in the hands of smallholder rural farmers. These farmers like other rural farmers in Nigeria have poor resources and operate in small-scale farming. They hardly use mechanized and other improved agricultural implements so it can be asserted that they nonetheless execute their agricultural activities in the "Traditional ways". Therefore, they need a lesser source on how to cultivate this crop if it is adapted in Nsukka. Organic and inorganic fertilizers on the growth of Asian eggplant have been one of the major questions that the farmers in Nsukka have yet to get answer. The issue of which fertilizer to use in the growing of Asian eggplant, which one will affect the growth rate positively and the effects of the fertilizer have been problematic questions that are yet to be answered. Therefore, this study is crucial as it tries to find out the comparative evaluation of the effects of organic and inorganic fertilizers on the growth rate and adaptability of Asian eggplant in Nsukka.

Purpose of the Study

The general purpose of the study was to ascertain the comparative evaluation of the effects of organic and inorganic fertilizer on the growth rate and adaptability of Asian Eggplant in Nsukka. The specific the study sought to determine;

1. Adaptability of Asian Eggplant using organic manure and inorganic manure
2. Growth rate (number of leaves, number of branches, leaf length, leaf height) of Asian Eggplant adapted with organic manure
3. Growth rate (number of leaves, number of branches, leaf length, leaf height) of Asian Eggplant adapted with inorganic manure

Research Question

The study answered the following research questions;

1. What is the rate of adaptation of Asian Eggplant using organic manure and inorganic manure?
2. What is the growth rate (number of leaves, number of branches, leaf length, leaf height) of Asian Eggplant adapted with organic manure?
3. What is the growth rate (number of leaves, number of branches, leaf length, leaf height) of Asian Eggplant adapted with inorganic manure?

Methodology

The study adopted experimental research design, specifically randomized complete block design with three replications. Experimental research design is appropriate for this study because it deals with observing phenomenon and taking record of the necessary parameters. The experiment was conducted at the University of Nigeria, Nsukka's research farm, within the Agricultural Education Department, Faculty of Vocational and Technical Education. Geographically, Nsukka while the second location of the experiment was located at Ohom Orba in Udenu LGA of Enugu State. The population for the study was 120 stands of Asian egg plants. There are two locations with control group and each of them was replicated three times. The sample size for the study were 90 seeds of Asian egg plants. Purposive sampling techniques were used to select 90 healthy Asian egg plants seeds used for the study. Recording templates was developed by the researcher to capture data on leaf size, plant height, and seed emergence, among other variables. The instruments for data collection were subjected to face validation by two experts. One expert from the

Department of Crop Science, Faculty of Agriculture, University of Nigeria, Nsukka, and the other from the Department of Agricultural Education, University of Nigeria, Nsukka, were review the instrument to ensure that the items align with the study's purpose and research questions. The experts' feedback and suggestions were incorporated to produce the final draft of the instrument. Data collected were analysed using mean and standard deviation

Results Presentation

Research Question 1: What is the rates of adaptation of Asian Eggplant using organic manure and inorganic manure?

Table 1: Mean score on the effects of organic manure on the adaptability of Asian Eggplant in Nsukka of Enugu State

Treatments	No of seed planted	No of seed emergence	% germination rate	No of plant that stayed till maturity	% maturity rate
Location of the experiment Nsukka LGA (UNN)					
T₀ Control	21	8	43.7	-	-
T₁ (poultry manure)	21	14	70.0	3	57.1
T₂ (NPK 151515)	21	12	70.0	2	45.6

Data presented in Table 1 on the effects of organic manure (T₀ Control, T₁, Poultry manure and NPK 151515) on the adaptability of Asian Eggplant Nsukka LGA of Enugu State showed that the Asian Eggplants planted had T₁, T₂ and the control group. In the table, the numbers of Asian Eggplant planted are twenty-one. However, treatment one had the highest number of germinated plants with the corresponding germination percentage followed by treatment two. The number of plants that stayed till maturity were also higher in treatment one with mean score of 3 and 57.1% against treatment two while control group did not prove to be well adapted to the environment without any plants that stayed till the end. Hence it can be summarized that Asian Eggplant did not effectively adapt in the area as the number of spouted seed were insignificant compared with the number planted as observed in all the treatment.

Research Question 2: What is the growth rate (number of leaves, number of branches, leaf length, leaf height) of Asian Eggplant adapted in organic manure?

Table 2: Mean score on the growth performance (number of leaves, number of branches, leaf length, leaf height) of Asian Eggplant adapted in organic manure.

Weeks	Asian eggplant planted in Nsukka LGA				Control Group			
	Treatment 1 (Organic manure)				MPH	MNL	MNB	MLL
WK 2	MPH	MNL	MNB	MLL	4.8	2	2	1.7
WK 3	8.6	4	2	3.8	5.6	4	2	2.4
WK 4	9.8	8	2	4.5	6.9	6	2	3.6
WK 5	9.9	9	3	5.4	-	-	-	-
WK 6	10.5	10	3	6.5	-	-	-	-
	10.6	11	4	6.8	-	-	-	-

Key: MPH- Mean plant height, MNL – Mean number of leaves, MNB – Mean number of branches, M LL –Mean length of leaves

Data presented in the table 2 revealed the growth parameters of Asian eggplant cultivated with organic manure (Poultry manure) in Nsukka. The table revealed the vegetative parameters such as the mean

height, mean number of leaves, mean number of branches and length of the leaves for both treatment and control group. Based on the findings of the study, it was revealed that mean plant height of Asian eggplant was recorded for six weeks with the plant attaining 10.6cm in height against control group which recorded 10.3cm. Similarly, treatment 1 recorded a mean score of 11 in the number of leaves, while in the mean value of branches and 4cm and 6.8 in the mean length of leaves against the control group which receded nothing because they did not survival up to the fifth and sixth week.

Research Question 3: What is the growth rate (number of leaves, number of branches, leaf length, leaf height) of Asian Eggplant adapted with (NPK fertilizer).

Table 3: Mean score on the growth performance (number of leaves, number of branches, leaf length, leaf height) of Asian Eggplant adapted with (NPK fertilizer)

Asian eggplant planted in Nsukka LGA								
Weeks	Treatment 1 (NPK fertilizer)				Control Group			
	MPH	MNL	MNB	MLL	MPH	MNL	MNB	MLL
WK 2	6.7	3	2	2.3	3.9	2	2	1.7
WK 3	7.6	4	3	2.8	4.7	4	2	2.4
WK 4	7.4	6	3	4.3	5.5	6	2	3.6
WK 5	8.6	6	4	4.4	-	-	-	-
WK 6	8.4	8	4	5.6	-	-	-	-

Key: MPH- Mean plant height, MNL – Mean number of leaves, MNB – Mean number of branches, LL – Mean length of leaves

From the data presented in the table 3 on the effects of inorganic fertilizer (NPK 15:15:15) on the growth performance of Asian eggplant cultivated in Nsukka. Findings from the table revealed that Asian eggplant cultivated with inorganic fertilizer (NPK 15:15:15) performed better than the control group. This were shown from the vegetative performance of the plant in terms of the mean plant height, the mean number of leaves, the mean number of branches and the mean length of leaves. It was also shown from the table that Asian eggplant cultivated Nsukka LGA had the highest mean score with regard to vegetative parameters measured. It can therefore be stated that Asian eggplant performed better under inorganic fertilizer against the control group and this was indicated in their vegetative performance. In comparing the growth performance of organic and inorganic manure on the vegetative growth of Asian eggplant, it can be summarized from table 2 and 3 that Asian eggplant cultivated with organic manure performed better than the one cultivated with NPK 15:15:15 fertilizer.

Findings of the Study

Based on the result of the analysis of data, the following findings were made

1. Based on the adaptability of the Asian eggplant cultivated in Nsukka LGA, it was found out that Asian eggplant adapted in soil that contains poultry manure than the control group. This was shown in the highest record of germination and maturity percentage over inorganic fertilizer (NPK 15:15:15) and control group.
2. The plant height for Asian eggplant produced with poultry manure (T1) recorded higher than the Asian eggplant produced without any manure (Control) throughout the experimental period.
3. The mean number of leaves for Asian eggplant was recorded higher in organic manure (T1) than the Asian eggplant produced under control group (Control) throughout the experimental period.
4. The mean number of branches for Asian eggplant was recorded higher in poultry manure (T1) than the Asian eggplant produced under without manure (Control) throughout the experimental period.
5. The mean number of length of leaves for Asian eggplant was recorded higher in poultry manure (T1) recorded higher than the Asian eggplant without any manure (Control) throughout the experimental period.

6. The plant height for Asian eggplant produced with inorganic fertilizer (NPK 15:15:15) (T2) recorded higher than the Asian eggplant produced without any manure (Control) throughout the experimental period.
7. The mean number of leaves for Asian eggplant was recorded higher in (NPK 15:15:15) (T2) than the Asian eggplant produced under control group (Control) throughout the experimental period.
8. The mean number of branches for Asian eggplant was recorded higher in (NPK 15:15:15) (T2) than the Asian eggplant produced without manure (Control) throughout the experimental period.
9. The mean number of length of leaves for Asian eggplant was recorded higher in (NPK 15:15:15) (T2) than the Asian eggplant without any manure (Control) throughout the experimental period.
10. It was also found out that the growth performance in terms of vegetative growth performed better with organic manure than (NPK 15:15:15) inorganic manure

Discussion of Findings

The findings of the study are discussed under the specific purposes of the study:

Rate of adaptation of Asian Eggplant using organic manure (poultry dropping)

From the use of (poultry) organic manure to ascertain its level of adaptability, it can be summarized from the findings that Asian Eggplant planted with poultry manure in Nsukka adapted more than the control group. The adaptability of this crop was more favoured with organic manure than inorganic manure. The adaptability of this crop was indicated from the number of plants that germinated plus other vegetative performance like number of leaves, number of branches and length of leaves. Hence it can be summarized that Asian Eggplants were more adapted to organic than inorganic manure. The findings of the study are in line with Jomar et al (2024) who noted that adaptability of crop to a particular environment depends on the management practices adopted to that crop especially the type of manure applied to such crop. The authors observed that Asian eggplants are more favoured with organic manure than without manure. They further noted that organic manure has been so helpful in enhancing crop growth and adaptability of many species of crop that are exotic. Ali et al (2014) also agreed with the findings of this study, noting that organic manure refurbish soil and pave way for plant anchorage in the soil and by so, enhance the crop performance of such crop.

Growth rate (number of leaves, number of branches, leaf length, leaf height) of Asian Eggplant adapted in organic manure

The findings of the study on the growth rate of Asian eggplant adapted in organic manure revealed that vegetative performance of Asian eggplant planted with respect to mean plant height, the mean number of leaves, the mean number of branches and the mean length of leaves performed higher in comparison with that of the control group. The findings of this study is in line with Davi et al (2020) who noted that organic manure especially poultry manure enhance vegetative growth of the plant and ensure plant turgidity. The author noted that poultry manure contains sufficient amount of nitrogen, phosphorus and potassium which helps in crop growth. Abbas, et al (2021) and Rehman et al (2015) supported this finding stating that Asian eggplant like any other fruit vegetable perform better under organic manure like poultry manure because of the essential nutrients that it contains. More so, Ulla et al (2018) supported the view noting that soil condition in the recent year have so much degenerated because of the continues cropping, however, the authors noted that with adequate application of organic manure, the crop will be able to source for nutrient needed to grow.

Growth rate (number of leaves, number of branches, leaf length, leaf height) of Asian Eggplant adapted with (NPK 15:15:15) Inorganic manure

The findings of the study on the growth rate of Asian eggplant adapted with inorganic manure revealed that Asian eggplant performed better under inorganic fertilizer against the control group and this was indicated in their vegetative performance. In comparing the findings from table 2 and 3, it can be seen that Asian eggplant cultivated with organic manure in Nsukka LGA performed better than Asian eggplant

cultivated in Udenu LGA. The findings also revealed that growth performance of Asian eggplant cultivated with inorganic manure (NPK 15:15:15) performed also better than the control group. In comparing the growth performance of organic and inorganic manure on the vegetative growth of Asian eggplant, it can be summarized from table 2 and 3 that Asian eggplant cultivated with organic manure performed better than the one cultivated with NPK 15:15:15 fertilizer. The findings are in line with Adamizewska-Sowinska and Krygier (2019) who noted that growing of vegetable crop with inorganic manure also improve crop yield. The authors noted that inorganic manure though have its own side effects, plays a vital role in enriching plant nutrients. The author observed that application of inorganic manure like NPK 15:15:15 have a better way of balancing the poor nutrient in the soil to diffuse needed nutrients for the plant growth. Ewulo et al (2018) and Fabio et al (2018) also agree with the findings of this study, noting that even when some inorganic fertilizer may seem difficult to apply in the farm, there is always high return of investment in terms of yield when such fertilizer eventually finds its source in the plant root and NPK fertilizer is known for that.

Conclusion

Based on the findings of the study, it can be summarized that Asian eggplant is very important vegetable crop that is needed because of its dietary needs. It was also found out from the work that Asian eggplant is yet to gain the popularity required because of its adaptability nature. However, with the use of organic manure, the vegetable crop could be adapted within Nsuakka environment. The study also observed that through the use of fertilizer such as NPK, Asian eggplant can also be grown in the area but most preferably with organic manure

Recommendations

Based on the findings of the study, the following recommendations were made.

1. There is need for certain crops that are not common within this environment to be gradually introduced using acceptable manure like poultry manure and fertilizer NPK 15:15:15
2. Farmers should be encouraged to use organic manure such as poultry manure on the growth and yield of vegetable crops such as Asian Eggplant.
3. There is need to examine the soil nutritional content in different location to ascertain which nutrient that is lacking so as to find out the best ways to handle it.
4. There is need for extension agents to educate the farmers on the use and application of certain manure for the growth of vegetables

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