International Journal of Educational Studies (INJEDS)
Vol. 2 Is. 1 (June 2025)
EISSN: 3092-8990 (print)
Website: https://www.injeds.com

Plant Protection Practices for Enhancing Maize Production in Secondary School Farms in Imo State, Nigeria

By
Ehiem, Nneka Glory
nnekaehiem@gmail.com

&

Prof. C. I. Obi
Department of Agricultural and Vocational Education,
Michael Okpara University of Agriculture, Umudike Abia State, Nigeria

Abstract

The study was carried out to determine plant protection practices for enhancing maize production in secondary school farms in Imo State, Nigeria. The study adopted descriptive survey research design. The study was guided by six research questions and six corresponding hypotheses were formulated and tested at 0.05 level of significance. The population of the study was 392 comprising 158 agricultural teachers in urban and 234 in rural area of Imo State. The sample of study was 235 compring 95 agricultural science teachers in urban and 140 in rural area using purposive sampling technique. The instrument for data collection was a researcher developed questionnaire titled: Plant Protection Practices for Enhancing Maize Production Questionnaire (PPPEMPQ). The instrument was validated by three experts. Two from Agricultural Education unit of the Department of Agricultural and Vocational Education and one from Measurement and Evaluation unit of Science Education Department, all from College of Education, Michael Okpara University of Agriculture, Umudike. The reliability of the instrument was 0.76 derived using Cronbach Alpha statistic. The data collected were analyzed using mean, standard deviation and t-test statistic. The results of the data analyses revealed that the 22 identified items were the: Disease, pest and weed control that students can adopt to enhance maize production in secondary school farms. Based on the findings, it was recommended that: The Government of Imo State should create awareness on disease, pest and weed control practices that can be adopted in schools to prevent loses in maize production to improve supply of maize in the state.

Keywords: Plant Protection, Maize Production and Secondary School Farms

Introduction

Maize is a high yielding cereal grown successfully under rainfed environment and requires less capital. It has established itself as a very significant component of the farming system and determines the cropping pattern of the predominantly peasant farmers. This grain crop is used as human food, animal feed as well as for industrial usage. It can be prepared in a variety of ways for human consumption such that you can hardly see a person who does not consume it in one form or the other (Afolabi, Thompson, Ogunwande & Olasunkanmi, 2020). Maize can be eaten boiled, roasted or fried while industrially it can be processed to produce flour, beer, cornflakes, golden morn, quaker oat, custard, beverages and animal feed as well. It contain essential nutrients to meet food requirement of human population because it has a great significance as food consume by human, animal feed and diversified uses in a large number of industrial products (Shishi, Muhammed & Wever, 2016).

However, maize production is an integral part of the agricultural curriculum. In the early 80s, and 90s the practice of maize production in the school farming was a major component of academic curriculum, and there were no exemptions as to who participated in practical agriculture. All students trooped to the farms on designated days. The idea behind this was to make agriculture an integral part of school culture, so that students are well positioned to appreciate farming and make it a lifestyle, even when they do not intend to specialise in it (Emeya & Ojimba, 2014). The maize production was taught to students in the classroom and practical planting of maize was carry out in the school farm by the students. But over the years, the practical activities of teaching maize production in school farms to the students seem to have dwindled and its objectives lost.

Currently, maize production in the school farms are done for teachers consumption and also to generate income to the teachers without practical demonstration and exposure of students to disease, pest, weed control and soil nutrient improvement as plant protection strategies to enable the students acquire such knowledge and skills. In most schools the maize is planted without adequate attention in disease, pest and weed control to enhance the yield. Also, today in many secondary schools farming activities hardly plays a part in setting up of schools, as many proprietors do not bother to allocate land for this purpose unlike in the past when schools had vast land use for practical activities (Emeya & Ojimba, 2014).

Therefore, due to various uses of maize and the high demand for the crop, there is need for its improve and increased maize production in school farms to complement what is produce by the

farmers. Hence, improving plant protection practices is necessary for enhancing maize production. Robert in Shishi, Muhammed and Wever (2016) asserted that to enhance is to increase the level of which something is done. Consequently, enhancing maize production require adequate plant protection to prevent disease and pest attack in order to improve maize production.

Plant protection according to Bawa and Ani (2014) are the activities involving employment of biological, chemical, and other measures that protect plants from disease agents, insect pests and weeds, or decrease their harmful effects and also preserve their ecological equilibrium in nature. It is also the science and practice of managing pests, diseases and weeds that damage crops and other plants, and which can have a devastating effect on farmer livelihoods. Similarly, in light of this study, plant protection practices are those strategies small scale maize farmers can adopt to improve their disease, pest, weed control, soil nutrient management practices and climate effect for enhancing maize production.

Thus, disease control is one of the plant protection practices for enhancing maize production. Diseases are among the most important factors that significantly diminish growth, yield and reduce the usefulness of crops or its product. Healthy crop develops and function to the maximum of their genetic potential. However, when plants are adversely affected by continuous irritation by a disease-causing agent (fungal, bacterial and viral diseases among others) which interferes with normal development and functioning, plants are considered to be diseased. The disease is noticeable through visible symptoms which required appropriate plant protection strategies such as use of chemicals and biological method for disease control for enhancing maize production (Afolabi et al., 2020).

Furthermore, improving pest control is also another plant protection practices for enhancing maize production. Pest can be described as an organism that causes serious destruction to crops (Galea, 2016). The pests affecting maize production include: stem borers, armyworms, silkworms, grasshoppers, termites, birds and weevils among others. Plant protection in maize production is geared towards pest control, elimination of all pests attacks on maize crop and also adequate weed control for the promotion of maize production (Galea, 2016).

In addition, weed has been also reported to be a serious threat to increased maize production, thereby causing economic losses. In the submission of Fakorede in Offiah (2015), weeds are plants growing where they are not planted or needed. It is estimated that weed control takes 50-

60% of the total cost of maize production. If weeds are not controlled in the early part of the growth cycle of maize, nearly 100% yield loss is possible. Indeed, a weed-free period of about 40-45 days after planting is required for optimum grain yield of maize (Offiah, 2015).

Nevertheless, ensuring adequate plant protection for optimum maize production also required adoption of soil nutrient management strategy. Soil is an irreplaceable and fixed asset which is limited in supply that is essential for food production and according to Olatunji in Kehinde, Kehinde and Akinola, (2020) the more land is cultivated for higher yields, the more that land is deprived of its nutrients and this required soil nutrient management. However, improving soil nutrient is a planned management of the soil to prevent soil degradation and depletion to ensure high crop yield (Kehinde, Kehinde & Akinola, 2020).

Consequently, despite the recognized positive impacts of plant protection on maize productivity and profitability, adoption of the effective plant protection practices by farmers and in schools by teachers and students are hindered by some factors which contributes to low production of maize. The low adoption rate of these practices could be traced to inadequate knowledge and technical knowhow on appropriate plant protection strategies to be adopted and poor accessibility to agricultural inputs for agricultural activities in schools both in urban and rural areas (Melaiye, Galadima, Chuboh, Yusuf & Tabi, 2021). Therefore, the use of plant protection practices in secondary school farms cannot be undermined respective of the location (urban or rural). According to Mbipom in Okafor (2016) location of schools refers to the particular place in relation to other areas in the physical environment (rural or urban) where the school is sited. Schools are either situated in one geographical location or the other to provide educational needs of the people through competent teachers. Thus, the extent to which teachers in the urban and rural area schools adopt plant protection practices for enhancing maize production remain in uncertain. To this end, it becomes imperative to examine the plant protection practices for enhancing maize production in secondary school farms in Imo State, Nigeria.

Statement of the Problem

Plan protection is important and general method of safeguarding maize plant and other crops from harmful attack resulting from different agents including pests, diseases, weeds and other organisms that causes damages to the agricultural crops. Plant protection helps to provide security to the crops (maize) and enabling environment that enhance the growth and productivity of the maize in the farm including secondary school farms. Unfortunately, in some

secondary school farms in Nigeria and Imo State in particular, maize production seem to be on a decline and where maize production are carried out in the school farms, adequate attention seems not to be given in term of crop protection practices such as disease, pest, weed control and soil fertility management to enhance the yield of the maize. The maize plants are left to be swallowed by weed and attack by insects, birds and diseases without adequate attention. Consequently, this has contributed to low maize production and high cost of maize in Imo State.

Furthermore, common observation by the researcher also revealed that lack of adoption of plant protection in maize production in secondary school farms in Imo State may be attributed to inadequate knowledge of some teachers and also the students on appropriate plant protection practices. Therefore, identification of appropriate plant protection practices that can be used in the secondary school farms is imperative for enhancing maize production and other crops. Consequently, it is on the above premise that this study is undertaken to examine the plant protection practices for enhancing maize production in secondary school farms in Imo State, Nigeria.

Purpose of the Study

The purpose of the study was to determine plant protection practices for enhancing maize production in secondary school farms in Imo State, Nigeria.

Specifically, the study sought to:

1. Determine disease control practices that students can adopt to enhance maize production in secondary school farms;
2. Find out pest control practices that students can adopt to enhance maize production in secondary school farms;
3. Identify weed control practices that students can adopt to enhance maize production in secondary school farms;

Research Questions

The following research questions were formulated to guide the study:

1. What are the disease control practices that students can adopt to enhance maize production in secondary school farms?

2. What are the pest control practices that students can adopt to enhance maize production in secondary school farms?
3. What are the weed control practices that students can adopt to enhance maize production in secondary school farms?

Hypotheses

The following null hypotheses were posed to guide the study and tested at 0.05 level of significance:

$H0_1$: There is no significant difference between the mean ratings of agricultural science teachers in urban and rural schools on the disease control practices that students can adopt to enhance maize production in secondary school farms.

$H0_2$: There is no significant difference between the mean ratings of agricultural science teachers in urban and rural schools on the pest control practices that students can adopt to enhance maize production in secondary school farms.

$H0_3$: There is no significant difference between the mean ratings of agricultural science teachers in urban and rural schools on the weed control practices that students can adopt to enhance maize production in secondary school farms.

Methodology

Descriptive survey research design was used to carry out this study. In the opinion of Nworgu (2018), is one in which a group of people or items are studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group. The population of the study was 392 comprising 158 agricultural teachers in urban and 234 in rural area of Imo State. The sample size of the study was 235 compring 95 agricultural teachers in urban and 140 in rural area using purposive sampling technique. The instrument for data collection was a structured questionnaire developed by the researcher titled: Plant Protection Practices for Enhancing Maize Production Questionnaire (PPPEMPQ).

The instrument was face validated by three experts, two experts from the Department of Agricultural and Vocational Education and one expert from Measurement and Evaluation unit of Science Education Department, all from College of Education, Michael Okpara University

of Agriculture, Umudike. The reliability coefficient of the instrument was 0.76 obtained using Cronbach Alpha statistic. A total of 235 copies of questionnaire were distributed and entire copies were retrieved representing 100% return rate compring 95 agricultural teachers in urban and 140 in rural area. The data collected was analysed using mean and standard deviation to answer the three research questions while t-test was used to test the three null hypotheses at 0.05 level of significance. Thus, the mean score of 2.50 and above was regarded as agreed while the mean scores below 2.50 were regarded as disagreed. The null hypotheses was accepted if the p-value is greater than the 0.05 alpha level of significance but rejected otherwise

Results

Research Question 1:

What are the disease control practices that students can adopt to enhance maize production in secondary school farms?

Table 1: Mean and Standard Deviation of the Respondents' Responses on the Disease Control Practices that Students can adopt to Enhance Maize Production in Secondary School Farms

n=235

S/N	ITEM STATEMENT **Disease Control Practices**	$\bar{X}$	SD	Rmks
1.	Use of maize disease resistant varieties	3.62	0.70	Agreed
2.	Timely and regular weeding of the farm land	3.54	0.77	Agreed
3.	Rotation of the farm land	3.60	0.79	Agreed
4.	Treatment of maize seed before planting	3.65	0.64	Agreed
5.	Good tillage practices	3.59	0.79	Agreed
6.	Uprooting of the infected crops to prevent spread of diseases	3.54	0.79	Agreed
7.	Burning of infected crops to control diseases	3.61	0.64	Agreed
8.	Fumigation of the farm with appropriate chemicals	3.61	0.68	Agreed
9.	Use of improved maize varieties	3.59	0.66	Agreed
10.	Use of uninfected planting materials	3.65	0.58	Agreed
	Cluster Mean	**3.60**	**0.69**	Agreed

KEY: $\bar{X}$ = mean, S.D= Standard deviation, Rmks. = Remarks.

From the data in Table 1 above, the means responses of the respondents ranges from 3.54 to 3.65 which are all above the cut-off point of 2.50. This implies that the respondents agreed that the 10 items are the disease control practices that students can adopt to enhance maize production in secondary school farms. Also the standard deviation of all the items ranges from 0.58-0.79 which shows that the responses of the respondents are close to one another in their responses and that they were not far from the mean.

Hypothesis 1: There is no significant difference between the mean ratings of agricultural science teachers in urban and rural schools on the disease control practices that students can adopt to enhance maize production in secondary school farms

Table 2: t-test analysis of Mean Ratings of Agricultural Teachers in Urban and Rural Schools on the Disease Control Practices that Students can adopt to Enhance Maize Production in Secondary School Farms

S/N	ITEM STATEMENT	$\bar{X}_U$	SD_U	$\bar{X}_R$	SD_R	p-value	Sig. level	Rmks
1.	Use of maize disease resistant varieties	3.63	0.78	3.62	0.63	0.38	0.05	NS
2.	Timely and regular weeding of the farm land	3.55	0.80	3.54	0.75	0.94	0.05	NS
3.	Rotation of the farm land	3.65	0.72	3.56	0.86	0.69	0.05	NS
4.	Treatment of maize seed before planting	3.67	0.67	3.63	0.61	0.87	0.05	NS
5.	Good tillage practices	3.60	0.73	3.58	0.69	0.89	0.05	NS
6.	Uprooting of the infected crops to prevent spread of diseases	3.55	0.82	3.53	0.76	0.86	0.05	NS
7.	Burning of infected crops to control diseases	3.64	0.59	3.58	0.70	0.07	0.05	NS
8.	Fumigation of the farm with appropriate chemicals	3.62	0.70	3.60	0.67	0.67	0.05	NS
9.	Use of improved maize varieties	3.62	0.63	3.57	0.70	0.19	0.05	NS
10.	Use of uninfected planting materials	3.67	0.53	3.63	0.63	0.17	0.05	NS

Keys: $\bar{X}_U$ = ***Mean of Urban teachers,*** $\bar{X}_R$ = ***Mean of Rural teachers,*** SD_U = ***Standard deviation of Urban teachers,*** SD_R***= standard deviation of Rural teachers, S* =Significant, NS = Not Significant, Degree of Freedom =*** $n_1+n_2-2= 95+140-2= 233$.

Data presented in Table 2 revealed that each of the 10 items had their p-values ranged from 0.07 to 0.94 which were greater than 0.05 alpha level of significance. This indicated that there

was no significant difference between the mean ratings of agricultural science teachers in urban and rural schools on the disease control practices that students can adopt to enhance maize production in secondary school farms. Therefore, the null hypothesis of no significant difference in the mean responses of agricultural science teachers in urban and rural schools on the disease control practices that students can adopt to enhance maize production in secondary school farms was upheld for all the 10 items.

Research Question 2:

What are the pest control practices that students can adopt to enhance maize production in secondary school farms?

Table 3: Mean and Standard Deviation of the Respondents' Responses on the Pest Control Practices that Students can adopt to Enhance Maize Production in Secondary School Farms

n=235

S/N	ITEM STATEMENT	$\bar{X}$	SD	Rmks
	Pest Control Practices:			
1.	Use of approved pesticides	3.65	0.74	Agreed
2.	Use of approved fungicides	3.66	0.71	Agreed
3.	Use of appropriate rodenticides to control rodents attacking crops	3.66	0.72	Agreed
4.	Treatment of maize seed before planting	3.69	0.63	Agreed
5.	Scaring away of birds attacking the crop	3.65	0.75	Agreed
6.	Use of biological pest control method	3.67	0.69	Agreed
	Cluster mean	**3.66**	**0.70**	Agreed

KEY: $\bar{X}$ ***= mean, S.D= Standard deviation, Rmks.= Remarks.***

From the Table 3 above, the mean responses of the respondents ranges from 3.65 to 3.69 which are all above the cut-off point of 2.50. This implies that the items are the pest control practices that students can adopt to enhance maize production in secondary school farms. Also the standard deviation of all the items ranges from 0.63-0.75 which shows that the responses of the respondents are close to one another in their responses and that they were not far from the mean.

Hypothesis 2: There is no significant difference between the mean ratings of agricultural science teachers in urban and rural schools on the pest control practices that students can adopt to enhance maize production in secondary school farms.

Table 4: t-test analysis of Mean Ratings of agricultural teachers in Urban and Rural Schools on the Pest Control Practices that Students can adopt to Enhance Maize Production in Secondary School Farms

S/N	ITEM STATEMENT	$\bar{X}_U$	SD_U	$\bar{X}_R$	SD_R	p-value	Sig. level	Rmks
1.	Use of approved pesticides	3.69	0.63	3.61	0.85	0.80	0.05	NS
2.	Use of approved fungicides	3.68	0.65	3.64	0.77	0.34	0.05	NS
3.	Use of appropriate rodenticides to control rodents attacking crops	3.67	0.73	3.66	0.71	0.85	0.05	NS
4.	Treatment of maize seed before planting	3.72	0.59	3.67	0.67	0.19	0.05	NS
5.	Scaring away of birds attacking the crop	3.68	0.70	3.62	0.81	0.23	0.05	NS
6.	Use of biological pest control method	3.69	0.66	3.65	0.73	0.38	0.05	NS

Keys: $\bar{X}_U$ *= Mean of Urban,* $\bar{X}_R$ *= Mean of Rural,* SD_U *= Standard deviation of Urban,* SD_R*= standard deviation of Rural,* ***N****=Number of respondents,* ***S**** *=Significant,* ***NS*** *= Not Significant, Degree of Freedom =* $n_1+n_2-2= 95+140-2= 233$.

Data presented in Table 4 revealed that the 6 items had their p-values ranged from 0.19-0.85 which were greater than 0.05 alpha level of significance. This indicated that there was no significant difference between the mean ratings of agricultural science teachers in urban and rural schools on the pest control practices that students can adopt to enhance maize production in secondary school farms. Therefore, the null hypothesis of no significant difference in the mean responses of agricultural teachers in urban and rural schools on the pest control practices that students can adopt to enhance maize production in secondary school farms was upheld on the 6 items.

Research Question 3:

What are the weed control practices that students can adopt to enhance maize production in secondary school farms?

Table 5: Mean and Standard Deviation of the Respondents' Responses on the Weed Control Practices that Students can adopt to Enhance Maize Production in Secondary School Farms

n=235

S/N	ITEM STATEMENT	$\overline{X}$	SD	Rmks
	Weed Control Practices:			
1.	Use of approved herbicides	3.08	1.01	Agreed
2.	Adoption of integrated weed management techniques	3.11	0.97	Agreed
3.	Use of cultural weed control strategy	3.10	1.00	Agreed
4.	Use of biological weed control method	3.12	0.95	Agreed
5.	Timely and regular wedding of the farm land	3.04	1.06	Agreed
6.	Good farm sanitation	3.12	0.97	Agreed
	Cluster mean	**3.09**	**0.99**	Agreed

KEY: $\overline{X}$ ***= mean, S.D= Standard deviation, Rmks. = Remarks.***

From the data in Table 5 above, the mean responses of the respondents ranges from 3.08 to 3.12 which are all above the cut-off point of 2.50. This implies that the 6 items are the weed control practices that students can adopt to enhance maize production in secondary school farms. Also the standard deviation of all the items ranges from 0.95 – 1.06 which shows that the responses of the respondents are close to one another in their responses and that they were not far from the mean.

Hypothesis 3: There is no significant difference between the mean ratings of agricultural science teachers in urban and rural schools on the weed control practices that students can adopt to enhance maize production in secondary school farms.

Table 6: t-test analysis of Mean Ratings of agricultural teachers in Urban and Rural Schools on the Weed Control Practices that Students can adopt to Enhance Maize Production in Secondary School Farms

S/N	ITEM STATEMENT	$\overline{X}_U$	SD_U	$\overline{X}_R$	SD_R	p-value	Sig. level	Rmks
1.	Use of approved herbicides	3.11	0.97	3.06	1.05	0.20	0.05	NS
2.	Adoption of integrated weed management techniques	3.15	0.92	3.07	1.03	0.08	0.05	NS
3.	Use of cultural weed control strategy	3.12	0.99	3.09	1.01	0.30	0.05	NS
4.	Use of biological weed control method	3.15	0.91	3.10	0.98	0.16	0.05	NS
5.	Timely and regular wedding of the farm land	3.06	1.04	3.03	1.09	0.36	0.05	NS
6.	Good farm sanitation	3.17	0.93	3.08	1.02	0.06	0.05	NS

$\overline{X}_U$ *= Mean of Urban,* $\overline{X}_R$ *= Mean of Rural,* SD_U *= Standard deviation of Urban,* SD_R *= standard deviation of Rural,* ***N****=Number of respondents,* ***S**** *=Significant,* ***NS*** *= Not Significant, Degree of Freedom =* $n_1+n_2-2= 95+140-2= 233$

The data presented in Table 6 revealed that the 6 items had their p-values ranged from 0.06-0.36 which were greater than 0.05 alpha level. This indicated that there was no significant difference between the mean ratings of agricultural science teachers in urban and rural schools on the weed control practices that students can adopt to enhance maize production in secondary school farms. Therefore, the null hypothesis of no significant difference in the mean responses of agricultural teachers in urban and rural schools on the weed control practices that students can adopt to enhance maize production in secondary school farms was upheld on the 6 items.

Discussions of the Findings

The findings were discussed in accordance with the research questions and hypotheses that guided the study as follows:

From the findings of the study on research question one, it was found out that the disease control practices that students can adopt to enhance maize production in post basic school farms are the use of maize disease resistant varieties, timely and regular weeding of the farm land, rotation of the farm land, treatment of maize seed before planting, good tillage practices, uprooting of the infected crops to prevent spread of diseases, burning of infected crops to control diseases, fumigation of the farm with appropriate chemicals, use of improved maize varieties, use of uninfected planting materials. Also, the result of the corresponding hypothesis indicated that there is no significant difference between the mean responses of agricultural science teachers in urban and rural schools on the disease control practices that students can adopt to enhance maize production in secondary school farms. These findings relates with the study of Afolabi, Thompson, Ogunwande and Olasunkanmi (2020) stated that the diseases control practices include: planting of certified seeds of resistant varieties, control weeds, remove virus-infected plants, spray against aphids, treat high quality seeds with seed treatment chemicals such as Apron star, and rotate with other crops. The findings also correspond to the study of Olusegun, Dare and Begho (2015) that diseases control strategies include: Uprooting and burning of infected crops to control or prevent diseases and elimination of living plants that carry pathogens and also unwanted crop residues should be destroyed by either cultivation or the application of herbicides.

Pest control practices that students can adopt to enhance maize production in secondary school farms

The findings of research question two indicated that the pest control practices that students can adopt to enhance maize production in post basic school farms include**:** Use of approved pesticides, use of approved fungicides, use of appropriate rodenticides to control rodents attacking crops, treatment of maize seed before planting, scaring away of birds attacking the crop and use of biological pest control method. More so, the result of the hypothesis two tested revealed that there is no significant difference between the mean responses of agricultural science teachers in urban and rural schools on the pest control practices that students can adopt to enhance maize production in secondary school farms. The findings relate with the study of Olusegun, Dare and Begho (2015) that seeds for planting should be dressed with the appropriate dressing chemicals before being planted to protect them against soil pests, diseases, and bird attacks before or after germination. The findings also correspond with the study of Yusuf, 2018) who stated that the use of pesticides and fungicides as pest control practices for enhancing crop production.

Weed control practices that students can adopt to enhance maize production in secondary school farms

The findings of the study on research question three shows that the weed control practices that students can adopt to enhance maize production in post basic school farms include: Use of approved herbicides, adoption of integrated weed management techniques, use of cultural weed control strategy, use of biological weed control method, timely and regular wedding of the farm land and good farm sanitation. Similarly, the corresponding hypothesis indicated that there is no significant difference between the mean responses of agricultural science teachers in urban and rural schools on the weed control practices that students can adopt to enhance maize production in secondary school farms. These findings relate with the study of Ndem and Uteh (2018) that weed control practices for enhancing maize production in school farms include: use of herbicides and cultural control like use of cutlass and weeding hoes.

Conclusion

From the findings of this study, it can be concluded that plant protection remain one of the strategies for enhancing crop yield and these plant protection practices revealed include: Disease control, pest control, and weed control but unfortunately in most schools this aspect of agricultural practices for enhancing maize production in secondary school farms seems not to have been given optimum attention due to some factors such as lack of supply of farm inputs

to schools, lack of access to extension services, poor linkages of schools with research institutes, inadequate knowledge of some teachers and students on different plant protection practices, high cost of agricultural farming inputs among others. This implies that to enhance the maize production in secondary school farms the identified plant protection practices are requires to be strictly adopted by the teachers and students.

Recommendations

Based on the findings of this study, it was recommended that:

1. The Government of Imo State should create awareness on disease control practices that can be adopted in schools to prevent loses in maize production to improve supply of maize in the state.
2. There is need for Imo State Ministry of Education to provide agricultural inputs such as approved pesticides, fungicides and rodenticides to schools as instructional materials for use by agricultural science teachers and students together with other physical and biological measures to enhance maize production in secondary school farms for consumption, income generation and industrial uses in Imo State.
3. Weed control practices should not be ignored in maize production in secondary school farms since weed is one of the enemies of crops it should be control effectively by the students in secondary schools in Imo State.

REFERENCES

Afolabi, J. A., Thompson, O. A., Ogunwande, I. O. & Olasunkanmi, N. O. (2020). Assessment of barriers to integrated pest management practice among maize farmers in Southwest, Nigeria. *European Journal of Scientific Research,* 157 (4), 395 – 407.

Bawa, D. B. & Ani, A.O. (2014). Assesses the adoption of improved maize production technology among farmers in Southern Borno, Nigeria. *Research on Humanities and Social Sciences*, 4(25), 137-141.

Emeya, S. & Ojimba, T. P. (2014). Social benefits of school farms in secondary schools in Rivers State. *An International Journal of Arts and Humanities,* 1(4), 274-290.

Galea, V. (2016). *Principles of integrated plant protection:* learning guide. University of Queensland, Gatton.

Kehinde, M. A., Kehinde, A. D. & Akinola A. A. (2020). Effect of farmers' organisation on soil conservation practices adopted in Oyo State. *International Journal of Community and Cooperative Studies*, 8(1), 23-34.

Melaiye, O. R., Galadima, A. I., Chuboh, J. V., Yusuf, A. A. & Tabi, I. (2021). Influence of vocational agricultural school farm on the academic performance of agricultural students in secondary schools in Lau LGA, Taraba State, Nigeria. *African Scholar Journal of Agriculture and Agricultural Technology*, 21(1), 125-134.

Ndem, C. & Uteh, A. (2018). Profitability of improved seed adoption on the profitability and technical efficiency of smallholder maize farmers in Abuja. *Business and Management Studies Journal*, 4(4), 41-56.

Nworgu, B.G. (2018). *Educational research, basic issues and methodology*. University Trust Publishers Nsukka.

Offiah, E. O. (2015). Sustainability of maize based production system in Anambra State Nigeria. *A Thesis Submitted to the Department of Agricultural Economics*, University of Nigeria, Nsukka.

Okafor, R. O. (2016). Teacher's role in effective implementation of economics in secondary schools. *International Journal of Education, 9*(5), 50-57.

Olusegun, A. F., Dare, A. & Begho, T. (2015). Factors influencing adoption decisions of maize farmers in Nigeria. *International Journal of Food and Agricultural Economics*, 2(3), 45-54.

Shishi, C. M., Muhammed, D. I. & Wever, D. G. (2016). Entrepreneurial competency in pig production for enhancing income of teachers of animal husbandry in secondary schools in Guma and Makurdi Local Government of Benue State. *Scholarly Journal of Agricultural Science*, 6(6), 185-194.

Yusuf, S. A. (2018). Improvement of soil quality and maize (Zea mays L.) performance using selected weed species as soil amendment. *A Thesis Submitted to the Department of Agronomy*, Faculty of Agriculture in Partial fulfilment of the requirements for the award of the Degree of Doctor of Philosophy in Soil Science