
Perceived Effects of Fall Armyworm (*Spodoptera Frugiperda*) on Corn Production among the Corn Farmers in Maramag, Bukidnon

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ABSTRACT.

The study's main objective was to determine the perceived effects of Fall Armyworm on corn production among corn farmers in the selected barangay of Maramag, Bukidnon. Specifically, this study aimed to describe the personal, socioeconomic, supportive, and psychological factors of Corn farmers in selected barangays of Maramag, Bukidnon; assess the perceived effects of Fall Armyworm in selected barangays of Maramag, Bukidnon. The data were gathered from 100 corn farmers and analyzed using descriptive analysis and Pearson Product-Moment Correlation Analysis. The findings reveal that the corn farmers were middle-aged, married males with large households. Roman Catholic, Cebuanos, and attained high school education with low income. They were landowners of small farms, which were their main source of income for a long time. The corn farmers used their money to support their farming activities, got information from their neighbors, and attended agricultural training, while extension agents visited them monthly. The corn farmers used the radio as a source of information about farming. They had a negative attitude toward the Fall Armyworm and exhibited high aspirations for their family, community, and corn production. The farmers perceived FAW to have high effects on corn production such as plant growth, income and yield, environmental implications, and control measures effectiveness.

KEYWORDS: *Agricultural Challenges, Farming Communities, Pest Infestation*

INTRODUCTION

Background of the Study

Corn (*Zea mays*), often known as maize, is a Poaceae family cereal plant. It is one of the most extensively spread food plants on the planet. Though it is a popular dish in many areas of the world, it is nutritionally inferior to other cereals. Corn is an essential cattle feed and a raw material in the industry, in addition to being utilized as a fresh and processed food for human consumption. Corn is the world's third-largest plant-based food source. Despite its importance as a staple meal in many regions worldwide, maize has lower nutritional value than other cereals. Corn has a lot of fiber and antioxidants (Britannica, 2021).

Maize is the second most significant crop in the Philippines after rice, with one-third of Filipino farmers, or 1.8 million people, relying on maize as their primary source of income. However, one of the most challenging situations farmers encounter is the infestation of insect pests. The insect pest to eradicate in field corn is the fall armyworm. Corn planted late in the

field and hybrids that mature late are more prone to be infected. Fall armyworm produces significant leaf-eating damage as well as direct ear irritation. While fall armyworms can cause harm to corn plants at almost any stage of growth, they prefer later plantings that have not yet silked. Fall armyworms, like European corn borer, can only be efficiently managed when the larvae are small. Early detection and administration of insecticides are crucial (Bessin, 2019).

According to the Department of Agriculture (DA), hundreds of hectares of corn fields in Bukidnon and Misamis Oriental provinces had been infested by fall armyworms, likely reducing corn output in northern Mindanao this year. As of June 5, 2019, the insect has devastated 271.45 hectares, or 25% of corn fields in Damulog, Danggagan, Don Carlos, Impasug-ong, Kadingilan, Kibawe, Kitaotao, Lantapan, and Maramag, Bukidnon (Madriaga, 2020).

Corn farming is the principal crop in Maramag, Bukidnon, the province's rising agricultural center. In September 2021, Bukidnon was one of the major corn-producing provinces in the Philippines. Bukidnon ranked third among the provinces with the highest corn production in the country in 2020, with a total production of 444,300 metric tons (MT) of corn. This accounted for 8.5% of the country's total corn production of 5.23 million MT in 2020. Fall Armyworm is a pest attacking corn farming which causes damage and affecting the food security in the Philippines. The study was conducted to determine the perceived effects of Fall Armyworm on corn production among farmers in selected barangays of Maramag, Bukidnon and identify the farmers' personal, socioeconomic, supportive, and psychological factors.

METHODOLOGY

The study area was conducted in Maramag, Bukidnon based on the following criteria the presence of Fall Armyworm infestation in the area, a number of corn farmers and the peace and order situation in the locality. Based on the criteria listed three barangays were identified in Maramag, Bukidnon, Anahawon, Bayabason, and Dologon. Maramag, located in the heart of Mindanao, is a first-class municipality established in 1956, covering 52,198.98 hectares with a population of 112,023 across 20 barangays. The town's name originates from the Manobo phrase "Ag Ramag Ki Dini," meaning "Let us have our breakfast here." A master list of corn farmers was provided by a municipal agriculturist from Maramag, Bukidnon. 134 corn farmers had two or more hectares of corn farmland in barangays Anahawon, Bayabason, and Dologon of Maramag, Bukidnon. The study used stratified random sampling in selecting the participants. According to the Cochran formula, a population of 134 had a sample size of 100. The study used a survey conducted through a questionnaire. It was designed to facilitate the gathering of primary information from corn farmers. The questionnaire was written in English and translated into the Cebuano dialect during the interview. The questionnaire would have the following parts; Personal Factor; Socio-economic Factor, Supportive Factors, Psychological Factor, Corn Farmers' Perception Towards Fall Armyworm (FAW), Problems Met by the corn farmers. A comprehensive survey was administered to the study participants, gathering data through both field and in-home interviews. Each interview lasted approximately one hour and was supplemented with photo documentation to enhance the data quality. To express gratitude for their time and valuable insights, participants were provided with a token of appreciation. The data were grouped, categorized, and analyzed according to

the objectives of the study. Descriptive statistics such as mean, rank, percentage, and frequency counts would be used in analyzing the personal, socio-economic, supportive, psychological, and other factors and the problems met by the farmers.

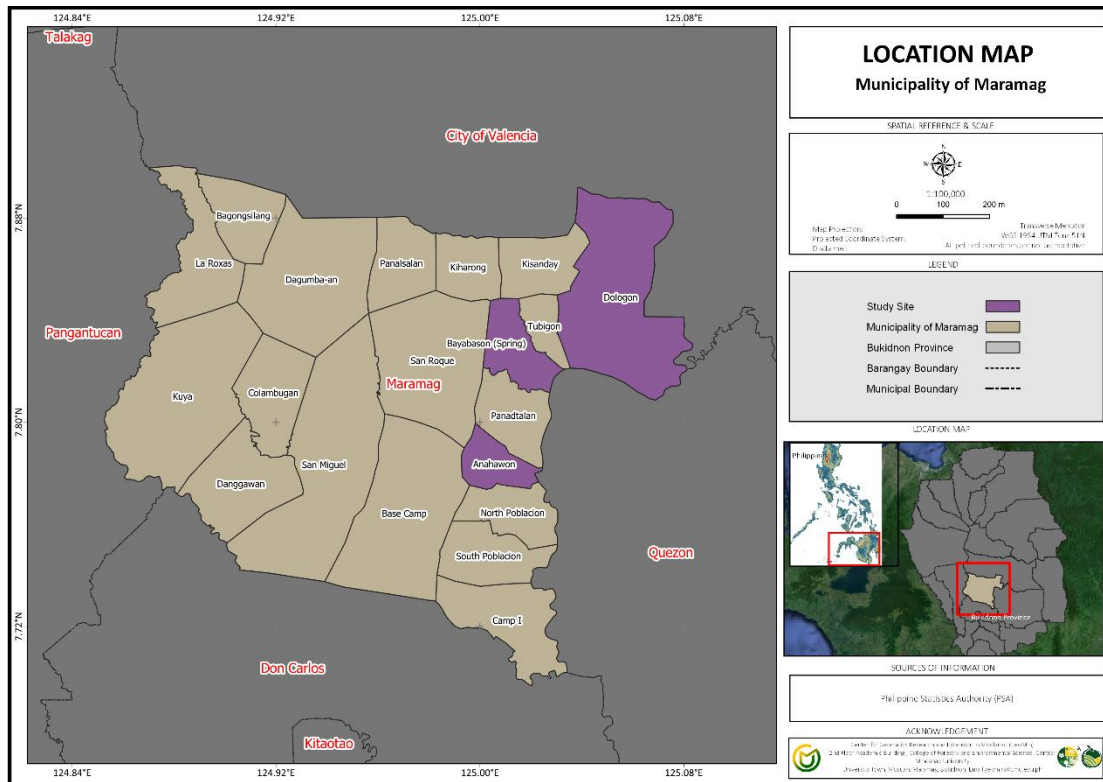


Figure 1. Map of the Philippines and Bukidnon showing the locale of the study

RESULTS AND DISCUSSION

Personal Factor

Age. Figure 3 shows the distribution of the corn farmers according to age. Data revealed that almost one-half (47%) of the corn farmers aged 41-50, while less than one-third (30%) aged 51-60. The oldest farmer was 73 years old, while the youngest was 34, with a mean age of 49.

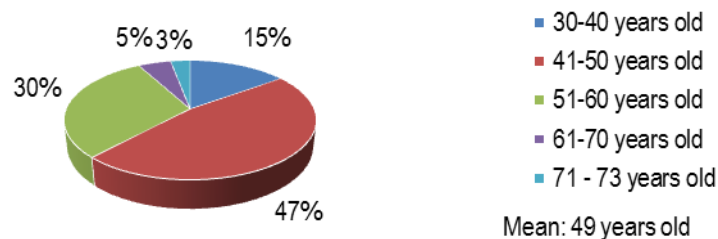


Figure 3. Distribution of the corn farmers according to age

Sex. Figure 4 shows the distribution of the corn farmers according to sex. Almost three-fourths (74%) of the farmers were males. This implies that the corn farmers were male-

dominated. Montecillo (2016) stated that in the field of agriculture, males were traditionally more dominant than women. Additionally, Philippine Statistics Authority (2005) males made up the majority of agricultural operators compared to females.

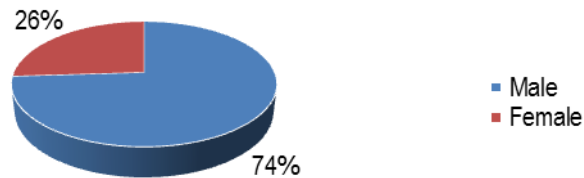


Figure 4. Distribution of the corn farmers according to sex

Marital Status. Figure 5 shows the distribution of the corn farmers according to marital status. The majority (92%) of the farmers were married, while a small portion (5%) of them were single, and less than one-tenth (3%) of them were widowed. It implies that farmers had families to support. According to Brillantes (2006), married people desire a permanent job and livelihood because of their children and future. Philippine Statistics Authority (2016), married individuals were responsible for caring for their children, which entails fulfilling economic obligations within the family.

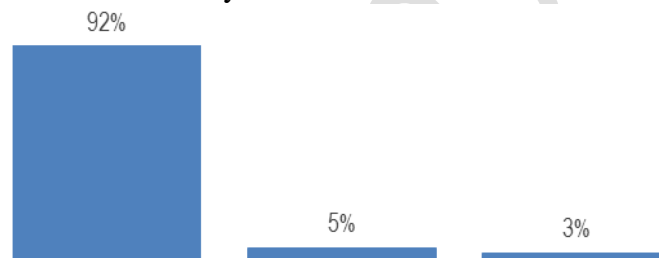


Figure 5. Distribution of the corn farmers according to marital status

Household Size. Table 1 presents the distribution of the corn farmers according to household size. Less than one-half (45%) of the farmers had 6-8 household members, while two-fifths (40%) of them had 3-5 household members. The largest household has 10 members and 3 members as the smallest, with a mean household size of 6 members. This implies that farmers had more than the average household size. As revealed by Arc GIS Online (2018), the average household size in the Philippines in 2018 consisted of four (4) people per household. In addition (PSA, 2016), average Filipino households composed of five (5) members were considered large. This reveals that the farmers' household size is more than the average Filipino household size.

Table 1. Distribution of the farmers according to household size

HOUSEHOLD SIZE	FREQUENCY	PERCENTAGE
3-5 members	40	40
6-8 members	45	45
9-10 members	15	15
TOTAL	100	100

Mean: 6 household members

Socioeconomic Factor

Ethnic Origin. Figure 6 shows the distribution of corn farmers according to ethnic origin. Most (85%) of the farmers were Cebuano, while more than one-tenth (12%) of them were Ilonggos. This implies that most of the farmers were migrants to Bukidnon. According to the Province Government of Bukidnon (2018), it was observed that a significant number of farmers in Bukidnon were migrants. Cebuano emerged as the predominant ethnic origin, representing 44.51 percent of the total households in the province. Bouquet (2017) highlights that Cebuano is recognized as one of the major ethnolinguistic groups in the Philippines, further emphasizing its cultural significance and influence in the region.

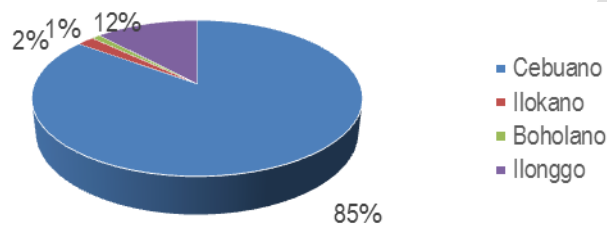


Figure 6. Distribution of corn farmers according to ethnic origin

Educational Attainment. Table 2 shows the distribution of the farmers according to educational attainment. Based on the survey, more than one-half (52%) of the farmers were at a high school level and more than one-third (38%) of them were elementary graduates. This implies that the farmers had a moderate level of education. This also suggests that the education level of farmers plays a role in their behavior and practices related to agriculture. According to Mcnermy (2014), the average level of education among Filipinos is the completion of the students in high school. Additionally, Martin (2009) noted that farmers with basic educational attainment tended to improve their knowledge of farming.

Table 2. Distribution of the farmers according to educational attainment

EDUCATIONAL ATTAINMENT	FREQUENCY	PERCENTAGE
Elementary Graduate	38	38
High School Level	52	52
High School Graduate	10	10
TOTAL	100	100

Religious Affiliation. Figure 7 shows the distribution of the corn farmers according to religious affiliation. It shows that most (82%) of the farmers were Roman Catholic, while slightly less than one-fifth (14%) of them were Baptist. This indicates that the farmers were dominated by Roman Catholics, and it has played a significant role in the lives of farmers in various regions, influencing their social, political, and religious affiliations. The findings were consistent with the report of Mangahas (2012) that the Philippines was considered a Catholic country despite the presence of other religions, such as Islam and various Christian denominations. Additionally, Collymore (2003) states that Filipinos comprise the great majority of Roman Catholics, and the enduring impact of Catholicism on alternative agriculture is seen through the continued influence of Catholic action and the spiritual dimension invoked by some peasant farmers.

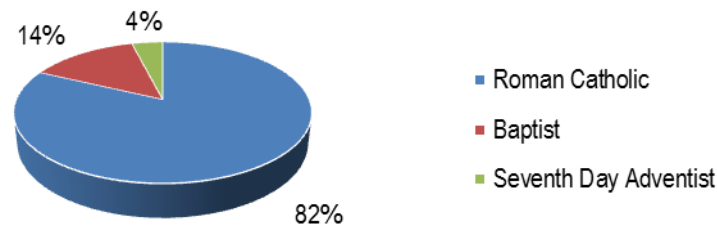


Figure 7. Distribution of the corn farmers according to religious affiliation

Annual Income. Table 3 reveals the distribution of the corn farmers according to annual income. Slightly more than two-fifths (41%) of the corn farmers obtain an annual income of Php 61,000 - 70,000, while more than one-fourth (29%) of them have an annual income ranging from Php 91,000 - Php 100,000. The mean annual income was Php 80,154. This implies that a significant portion of corn farmers earn below the average income, potentially indicating challenges in achieving sustainable livelihoods within the industry. According to PSA (2016), the average annual family income of Filipino families was approximately Php 267,000. Furthermore, according to PSA (2018), the average annual family income of Filipinos in 2018 was valued at Php 152,000 which means that the farmers in Maramag had low annual income. A significant portion of corn farmers in the Philippines have seen their incomes decline in recent years, with substantial regional differences in profitability.

Table 3. Distribution of the corn farmers according to annual income

ANNUAL INCOME	FREQUENCY	PERCENTAGE
Php 61,000 - 70,000	41	41
Php 71,000 – Php 80,000	8	8
Php 81,000 – Php 90,000	22	22
Php 91,000 – Php 100,000	29	29
TOTAL	100	100

Mean: Php 80, 154

Farm Size. Table 4 shows the distribution of the farmers according to farm size. Data reveal that most (80%) of them had 1.1 to 2.0 hectares. The largest farm size was 3.0 hectares, while the smallest was 0.5 hectares, with a mean farm size of 1.6 hectares. This means that the farmers had a small farm size from which they derived the needs of their families. According to Makgoba et al. (2021) and Lowder (2016), there were 570 million farms worldwide, most of which were small and family-oriented ranging from 1 to 2 hectares. Small-scale farmers who rely on their farms for sustenance are more vulnerable to the impacts of fall armyworm infestations. Wieliczko et al. (2020) shed light on how small farms demonstrate resilience and importance in addressing the needs of farming families despite encountering diverse challenges and opportunities.

Table 4. Distribution of the farmers according to farm size

FARM SIZE	FREQUENCY	PERCENTAGE
0.5 ha – 1.0 ha	17	17
1.1 ha – 2.0 has	80	80
2.1 has – 3.0 has	3	3
TOTAL	100	100

Mean: 1.6 hectares

Farming Experience. Table 5 shows the distribution of the corn farmers according to the number of years in farming. Based on the result, less than one-half (45%) of the farmers farmed for 16-20 years, while slightly less than one-third (29%) of them farmed for 5 - 10 years. The highest farming experience was 46 years, while the lowest was 3 years with a mean of 15 years. This implies that the farmers were well experienced in farming. Farmers involved in farming for several years were expected to perform better than new farmers (Dlamini, 2012). Additionally, PSA (2021) suggested that experienced corn farmers, tend to have higher productivity and incomes compared to less experienced farmers and have better access to resources like improved seeds, fertilizers, and equipment, leading to increased productivity and improved livelihoods.

Table 5. Distribution of the corn farmers according to the farming experience

ANNUAL INCOME	FREQUENCY	PERCENTAGE
3 - 10 years old	29	29
11 - 15 years old	20	20
16 – 20 years old	45	45
21 – 46 years old	6	6
TOTAL	100	100

Mean: 15 years

Tenurial Status. All (100%) of the farmers were landowners. This means that farmers were cultivating their farms. Philippine farming was mostly governed by farmland owners who freely decided and planned their land. Landowners had a great perspective in running the farm to achieve a profit as it continues to evolve with the use of new farming technology and management practices (Cohen, 2019). According to Khan et al. (2012), household farming or owner cultivation was the optimum form of production organization in agriculture. Moreover, in the United States (U.S.), a majority of farmland is owner-operated, highlighting the influence of land ownership on farming practices and outcomes (Pochanasomboon et al., 2020).

Source of Income. All (100%) of the farmers' main source of income was farming. Aside from farming, the farmers also had other sources of income such as business (27%). This indicates that farmers rely on farming as their main source of income. According to the study by Levi (2006), one of the major sources of income of an average Filipino was farming and this includes gardening and raising livestock. Accordingly, agriculture is the primary occupation for a large portion of the population in developing countries, and it plays a crucial role in their economic growth (Prakash, 2018).

Supportive Factor

Contact with Change Agent. Figure 8 shows the distribution of the farmers according to contact with extension workers. More than one-half (57%) of the farmers were visited once a month by the Municipal Agricultural Technologist, while slightly more than two-fifths (41%) of them were contacted by the extension worker weekly. This implies that the extension worker interacts with the farmers. Keeping the farmers informed about the program implemented by increasing the frequency of extension visits and monitoring increased the likelihood of farmers working hard on the farm (Dogbe et al., 2013). According to Viscarra (2017), interaction with the extension agent brought certain growth and development in the agriculture and fishery sectors.

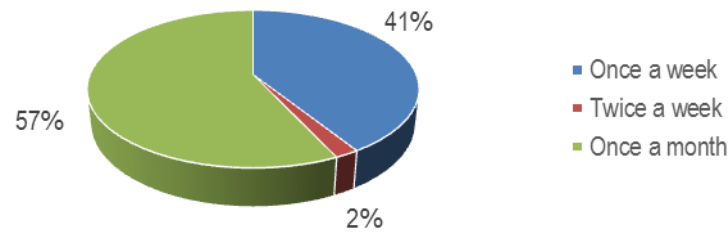


Figure 8. Distribution of the corn farmers according to contact with extension workers

Source of information. Figure 9 presents the source of information of corn farmers about FAW. One-half (50%) of the farmers acquired information from neighbors, while slightly more than two-fifths (43%) of them got the information from extension workers. This implies that farmers got information from different sources thus, FAW was quite known to the corn farmers in the Exposure to Mass Media. The data in Figure 10 presents the corn farmers' exposure to mass media. More than three-fourths (77%) of the farmers use radio as a source of information about Fall Armyworm. This implies that farmers were exposed to broadcast media such as radio. According to Gunya (2017), media communication such as radio was significant in transferring information regarding agricultural programs to farmers in a short period. In addition to Kumar et al. (2020), radio was a powerful tool that can easily reach many people, including those in rural areas, without the restriction of literacy, distance, and cost-effectiveness.

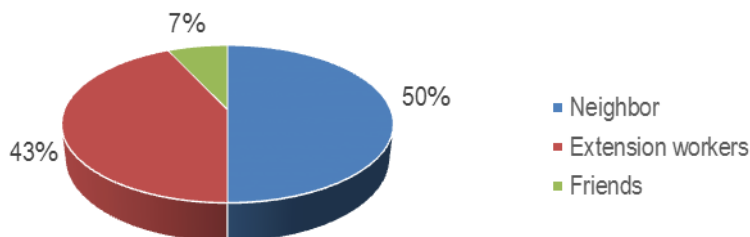


Figure 9. Distribution of the corn farmers according to source of information

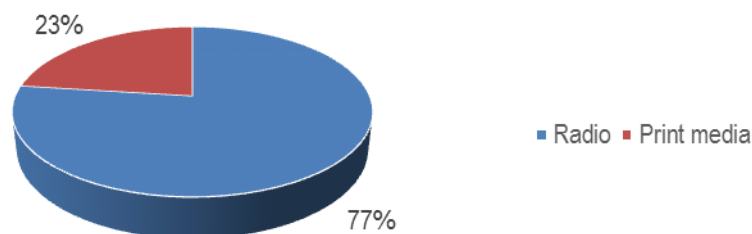


Figure 10. Distribution of the corn farmers according to exposure to mass media

Training and Seminars Attended. The training and seminars attended by the corn farmers that were related to the management of FAW were reflected in Table 6 shows that most (87%) of the corn farmers had attended training and seminars.

Table 6. Training and seminars attended by the corn farmers

INDICATORS	FREQUENCY 100	PERCENTAGE
Training and Seminars Attended		
Yes	87	87
No	13	13
Title of Training and Seminars Attended		
Organic Agriculture	87	87
Sponsoring Agency		
DA	87	87

Specifically, the corn farmers attended training and seminars on Organic Agriculture. This implies that most of the farmers attended knowledge enhancement activities that could be used for corn production. According to FAO (2018), seminars and training helped people to grow and enhance their skills in their perspective field and had a large difference of knowledge than those who failed to attend. Moreover, Francisco (2019), training and seminars enhance farmers' skills and enable them to discover new farming techniques in farming.

Psychological Factor

Aspiration in Life. Table 7 shows the farmers, aspirations in life. Based on the result, corn farmers showed very high aspirations in life with an overall mean of 4.78. The farmers rated as very high the following indicators: They want to provide good quality food for their family (4.82), to increase their income (4.79), and they want their family to stay healthy (4.79). This implies that the farmers aspired for the betterment of their families for economic and familial concerns, indicating a holistic approach to the well-being of their households. Accordingly, farmers had aspirations for their future lives as a result of being hopeful for change or vision of a better life. This holistic perspective integrates various aspects of health, including physical, socio-cultural, and mental well-being, as highlighted in the research. (Moore, 2017). Additionally, Ampatin (2007) found that a person with aspirations in life works hard toward the attainment of his/her goals for economic and social well-being.

Table 7. Farmers' aspiration in life

INDICATORS	WEIGHTED MEAN	DESCRIPTIVE RATING
I want to provide good quality food for my family.	4.82	Very High
I want to increase my income.	4.79	Very High
I want my family to stay healthy.	4.79	Very High
I want to provide food for my family.	4.79	Very High
I want my family to live a better life.	4.79	Very High
I want to had a decent house.	4.78	Very High
I want to provide food for my family.	4.78	Very High

I want to have more area for farming.	4.77	Very High
I aspire to gain more knowledge and skills through training/seminars.	4.76	Very High
I want to become a role model in my community.	4.74	Very High
OVERALL MEAN	4.78	Very High

Legend: 4.51-5.00 Very High 3.51-4.50 High 2.51-3.50 Moderate 1.51-2.50 Low
1.00- 1.50 Very Low

Attitudes Towards Fall Armyworm. Table 8 presents the corn farmers' attitudes toward fall armyworms in corn production. The farmers strongly agree with statements regarding fall armyworms, as indicated by an overall mean score of 4.68.

They express a strong agreement that the insect pest was bad on their cornfields (4.77), contributed to the damage of corn (4.75), and was not easy to control (4.72).

Table 8. Farmer's attitude towards FAW on corn production

INDICATORS	WEIGHTED MEAN	DESCRIPTIVE RATING
I believed that FAW was bad for my cornfields.	4.77	Strongly Agree
I believed that FAW contributed to the damage of corn.	4.75	Strongly Agree
I believed that FAW was not easy to control.	4.72	Strongly Agree
I believed that the infestation FAW decreased my income.	4.70	Strongly Agree
I believed that FAW was not easy to manage	4.66	Strongly Agree
I believed that FAW can harm corn plants.	4.66	Strongly Agree
I believed that the infestation FAW threatened food security.	4.66	Strongly Agree
I believed that FAW causes yield loss.	4.65	Strongly Agree
I believed that FAW caused huge economic losses.	4.64	Strongly Agree
I want my cornfield to be free of insect pests.	4.61	Strongly Agree
OVERALL MEAN	4.68	Strongly Agree

Legend: 4.51-5.00 Strongly Agree 3.51-4.50 Agree 2.51-3.50 Moderately Agree
1.51-2.50 Disagree 1.00- 1.50 Strongly Disagree

Perceived Effects of Fall Armyworm on Corn Production among Corn Farmers in Selected Barangays of Maramag, Bukidnon

Plant Growth. Table 9 shows the effects of fall armyworms on corn production among corn farmers in selected barangays of Maramag, Bukidnon in terms of plant growth. The farmers rated the perceived effects of fall armyworm on corn production in plant growth with an overall mean of 3.97 which means high.

In particular, the farmers rated as high on the following indicators: The FAW causes the height of the corn to be shorter compared to healthy plants of the same age (4.46), can cause smaller ear size of the corn by exhibiting poor kernel development (4.40), and causes the overall growth rate of corn by exhibiting slower growth compared to unaffected crops (4.36).

Table 9. Perceived Effects of Fall Armyworm on Corn Production in terms of Plant Growth

INDICATORS	WEIGHTED MEAN	DESCRIPTIVE RATING
I believed that FAW caused the height of the corn to be shorter compared to healthy plants of the same age.	4.46	High
I believed that FAW can cause smaller ears size of the corn by exhibiting poor kernel development.	4.40	High
I believed that FAW causes the overall growth rate of corn by exhibiting slower growth compared to unaffected crops.	4.36	High
I believed that FAW can cause the weak stalk to corn such as stalks thinner, weaker, or prone to lodging.	4.33	High
I believed that FAW can cause poor tillering which results in fewer tillers branching from the main stalk compared to healthy corn plants.	4.23	High
I believed that FAW decreases the overall leaf area of the corn plant.	3.99	High
I believed that FAW can caused leaf deformation which was the leaves twisted, curled, or showing abnormal growth patterns.	3.94	High
I believed that FAW can cause leaf discoloration by showing signs of yellowing, browning, or necrosis.	3.41	Moderate
I believed that FAW can cause delayed development by lagging in terms of developmental stages, such as tasseling or silking.	3.36	Moderate
I believed that FAW can cause leaf size, which was when the leaves were smaller in size than expected for the stage of growth.	3.21	Moderate
OVERALL MEAN	3.97	High

Legend: 4.51-5.00 Very High 3.51-4.50 High 2.51-3.50 Moderate 1.51-2.50 Low
1.00- 1.50 Very Low

This implies that the fall armyworm on corn production among corn farmers has a substantial negative impact on the overall productivity and yield of corn crops. The detrimental impact of fall armyworm on corn production was evident, with a substantial negative influence on the overall productivity and yield of corn crops among farmers. Matova et al. (2022) note that fall armyworm infestation has been linked to stunted growth in corn crops, setting the stage for a decline in production. According to reports by Omwoyo et al. (2022) and Senait et al. (2022), visual damages such as yellowish leaves, stunted growth, and poor yield quality were commonly reported by farmers grappling with fall armyworm infestation.

Income and Yield. Table 10 shows the effects of fall armyworms on corn production among corn farmers in selected barangays of Maramag, Bukidnon in terms of income and yield.

The farmers rated the effects of fall armyworms on corn in income and yield as high with an overall mean of 4.18. In particular, the farmers rated as very high the following indicators: The presence of FAW in their corn crops has decreased their overall yield (4.73), the use of chemical pesticides to control fall armyworms has led to additional costs for their farm, reducing their overall income (4.58), and the extra expenses incurred due to fall armyworm control measures had lowered my profit margin (4.54). This implies that the fall armyworm on corn production among corn farmers has a substantial negative impact on the financial well-being of farmers, affecting both yield and income through increased costs associated with pest control measures.

Omwoyo et al. (2022) emphasize the significant impact of fall armyworm (FAW) on corn production, with farmers estimating high yield losses.

Unfortunately, the indiscriminate use of pesticides to manage FAW, as noted by Gadratagi et al. (2022), has not only failed to effectively control the pest but has also led to insect resurgence, further harming maize production. Zewdu et al. (2021) provide a broader perspective, revealing that in sub-Saharan Africa, fall armyworms had caused an average annual loss of 36% in maize production, resulting in a staggering total economic loss of US\$ 200 million. Field trials conducted by Van den Berg et al. (2021) demonstrate that protecting plants during earlier growth stages was crucial, as it yields higher results compared to protection during later stages.

Table 10. Perceived Effects of Fall Armyworm on Corn Production in terms of Income and Yield

INDICATORS	WEIGHTED MEAN	DESCRIPTIVE RATING
I believed that the presence of FAW in corn crops has decreased my overall yield.	4.73	Very High
I believed that the use of chemical pesticides to control fall armyworms has led to additional costs for farms, reducing my overall income.	4.58	Very High
I believed that the extra expenses incurred due to fall armyworm control measures lowered my profit margin.	4.54	Very High
I believed that the fall armyworm infestation had caused a decrease in the quality of corn crops, leading to lower prices in the market.	4.34	High
I believed that the decreased yield caused by the fall armyworm infestation has resulted in a decrease in the market value of corn crops.	4.31	High
I believed that the time and labor required to implement non-chemical fall armyworm control methods had negatively impacted my income.	4.24	High
I believed that the average yield loss due to FAW infestations in corn was nearly around 44.32% kilograms or tons per hectare.	3.94	High
I believed that FAW infestations in corn can result in losses of up to 50% kg per hectare.	3.81	High

I believed that the loss of corn crops due to fall armyworm infestation has resulted in a decrease in my income.	3.75	High			
I believed that FAW infestations in corn can result in yield losses of up to 50 percent.	3.51	High			
OVERALL MEAN	4.18	High			
Legend:	4.51-5.00 Very High	3.51-4.50 High	2.51-3.50 Moderate	1.51-2.50 Low	1.00- 1.50 Very Low

CONCLUSION

Based on the findings of the study, the following conclusions were drawn:

The corn farmers were middle-aged, married males with large households. They were members of the Roman Catholic, hailed as Cebuano, and attained high school education with low annual income. They were landowners of small farms as their main source of income for a long time. The corn farmers utilized their own money to support their farming activities and got information from their neighbors. All of them had attended agricultural training, while others had minimal interaction with the extension agent. The corn farmers used the radio as a source of information about farming. They had exhibited a negative attitude toward the Fall Armyworm and highly aspired for their family, community, and corn production.

The corn farmers perceived Fall Armyworm has high negative effects on plant growth, income and yield which suggest that corn farmers were grappling with the significant challenges posed by fall armyworm infestation.

To combat the effect of fall armyworm, government agencies like the department of agriculture can provide financial support programs to farmers to help farmers agriculture productivity. Grants and training related to the fall army worm control measure may also be conducted. Trained extension agents can also conduct an information drive, campaigns and hands on activities to change the perception of farmers on Fall army worm in Maramag, Bukidnon. A community-based monitoring system can also be implemented in the area.

A partnership between stakeholders, LGU, policy makers and academe can also be explore to address various problems related to fall armyworm and corn production.

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