

Original Article

# Use of Mosquito Nets in Cassava's Farm Protection in Bohicon District in Benin, West Africa

Lègba Nazaire Aïzoun<sup>1\*</sup>, Yédjanlognon Faustin Assongba<sup>2</sup>, Sylvestre Codjia<sup>1</sup>, Mindégnisèa Habib Tamègnon<sup>1</sup>, Chèpo Daniel Chougourou<sup>3</sup>

<sup>1</sup>Laboratory of Pluridisciplinary Research of Technical Teaching (LaRPET), Normal High School of Technical Teaching (ENSET) of Lokossa, National University of Sciences, Technologies, Engineering and Mathematics (UNSTIM) of Abomey, P.O. Box 133, Lokossa, Cotonou, Benin.

<sup>2</sup>Unit of Bioscience and Applied Ethnobotany, Laboratory for Research in Medical and Pharmaceutical Biotechnologies (LARBIMEP), National High School of Biosciences and Applied Biotechnology (ENSBBA) of Dassa-Zoumè, National University of Sciences, Technologies, Engineering and Mathematics (UNSTIM) of Abomey, Benin.

<sup>3</sup>Department of Environment Genius, Polytechnic School of Abomey-Calavi (EPAC), University of Abomey-Calavi (UAC), Cotonou, Benin.

\* Corresponding Author : [aizoun.nazaire@yahoo.fr](mailto:aizoun.nazaire@yahoo.fr)

Received: 25 April 2026

Revised: 28 May 2026

Accepted: 13 June 2026

Published: 29 June 2026

**Abstract** - Crop protection is necessary to increase crop yields. The current study aimed to investigate the use of mosquito nets in Cassava's farm protection in the Bohicon district in Benin, West Africa. The locations of Hèzonho and Djognangbo in the Bohicon district were surveyed in November 2024 during the small rainy season to collect information about the number of Cassava's farm protected by mosquito nets, the kind of palisade of protection, the kind and the number of mosquito nets used. The results showed that the number of Cassava's farm protected by mosquito nets in Hèzonho and Djognangbo locations was twenty-four (24). These Cassava's farms were protected by a palisade made essentially with dry wood. Two kinds of mosquito nets were used in the protection of Cassava's farm. There were: Permanet 2.0 and Olyset net. The number of Permanet 2.0 used in Cassava's farm protection was higher than the number of Olyset nets used for this purpose. The use of mosquito nets in Cassava's farm protection in the Zou department is a reality in Benin. This phenomenon would be a threat to malaria vector control.

**Keywords** - Benin, Cassava's farm protection, Olyset net, Permanet 2.0, Mosquito Nets.

## 1. Introduction

Crop protection is a growth strategy and technique for defending crop yields against a variety of species, such as pests, weeds, plant diseases, and other life forms that harm agricultural crops. They consist of ailments, viruses, weeds, and pests. They can all substantially weaken or perhaps completely destroy plants. Managing the situation by reducing the risks is preferable to managing the problem's effects. Farmers can monitor climate change and detect the emergence of harmful weeds, pests, or diseases earlier on due to crop control. The agricultural ecology contains a wide variety of creatures that can harm plants. They impair yields by inhibiting plant development, decreasing plant thickness, and other factors. Risks are reduced by taking early preventive action. Additionally, crop protection is important to agriculture because it maintains biodiversity and nutrient levels in the soil, makes the most efficient use of the land, water, and labour available, and ultimately improves food quality and reduces production costs (Joseph, 2022).

Choosing netting for agricultural applications requires consideration of elements like affordability, toughness,

visibility, and ease of installation. The material should be selected based on whether the net will be installed above ground or below ground. Materials that are lightweight but strong enough to resist windy conditions without easily breaking down over time would be needed for aboveground nets. To withstand pressure from soil movement or root growth, belowground nets should be exceptionally strong (Howard, 2023).

The idea behind the netting technology was inspired by how mosquito nets work for human beings. The technology involves the physical installation of nets over crops. It has been identified as one of the technologies that best helps farmers to cover their crops in a bid to rid them of pests. Although there are cases where mosquito nets have been used for other purposes, such as fishing, the agro-nets are made of a synthetic material with precision to what the farmers need. Other benefits of the nets include protection of the crops from hailstones and birds.

Insect-proof nets provide an ecological and effective approach to control the infection and transfer of plant diseases and insect pests (Guo *et al.*, 2015). They reduce the amount of chemical pesticide application, the health risks for workers, and potential environmental pollution



(Möller *et al.*, 2005; Castellano *et al.*, 2008). In addition, insect-proof nets are efficient tools to mitigate the negative effects of harsh weather, such as hail, strong wind, and excessive radiation load (Mahmood *et al.*, 2018; Mupambi *et al.*, 2018). Currently, protected cultivation using insect-proof nets is a common practice in many countries worldwide (Muleke *et al.*, 2012; Kitta *et al.*, 2014; Vidogbéna *et al.*, 2015).

Assogba-Komlan *et al.* (2021) had recently assessed the effects of the use of insect nets in vegetable production in four departments of southern Benin (Mono, Couffo, Ouémé, and Plateau) using an interview guide and a structured questionnaire.

Very few studies were published on the use of mosquito nets in Cassava's farm protection in the Bohicon district. Therefore, there is a need to carry out new research for this purpose.

The goal of this study was to investigate how farmers used mosquito nets to protect their Cassava's farm in the Bohicon district in the South Republic of Benin.

## 2. Review of Literature

Cassava (*Manihot Esculenta*), also known as Mandioca, Manioc, and Yuca, is a woody perennial plant in the spurge family (Euphorbiaceae) (Hillocks *et al.*, 2002). Improvements in cassava yield, quality, and sustainability could be important for food security in Africa, where the human population is expected to double by 2050 (UN, 2017). Insects, mites, spiders, and other creatures occur in cassava farms. Some of these creatures are harmful, while others are beneficial. The harmful creatures are called pests because they feed on and damage cassava leaves, stems, and roots, causing losses to the farmer. Some of these pests are easily seen. However, there are others, such as tiny mites, which may not be easily noticed, especially if you are not trained to look for them. Even though the damage caused by pests may be obvious, this does not necessarily mean that the pest is causing yield loss. Pest control measures should be undertaken only when the pests are becoming very abundant and pose a high risk of yield loss, and/or the crop looks unhealthy (James *et al.*, 2000). Different methods are used to protect Cassava's farm from pest attacks, such as Inorganic herbicides for crop protection (Adams *et al.*, 2014), biological crop protection (Mosier *et al.*, 2004), and mechanical and cultural crop protection (Mir *et al.*, 2002). The last method consists of barriers, traps, mulching, soil solarization, and sanitization procedures that keep pests and animals out of the field.

## 3. Materials and Methods

### 3.1. Study Area

The study area is located in the Republic of Benin (West Africa) and includes the department of Zou. The Zou department is located in the south of the Republic of Benin, and the study was carried out in the Bohicon district, more precisely in the locations of Hèzonho and

Djognangbo (Figure 1). The southern border of this district is the Zogbodomey district. The northern border is the Djidja district. The eastern borders are Zakpota and Cové districts, and the western border is Agbangnizoun district. The choice of the study sites took into account the economic activities of populations, their usual protection practices against mosquito bites, and peasant practices to control farming pests. Bohicon has a climate with four seasons, two rainy seasons (April-June and September-November) and two dry seasons (December-March and July-August). The temperature ranged from 25 to 32°C, with the annual mean rainfall being 1.025 mm.

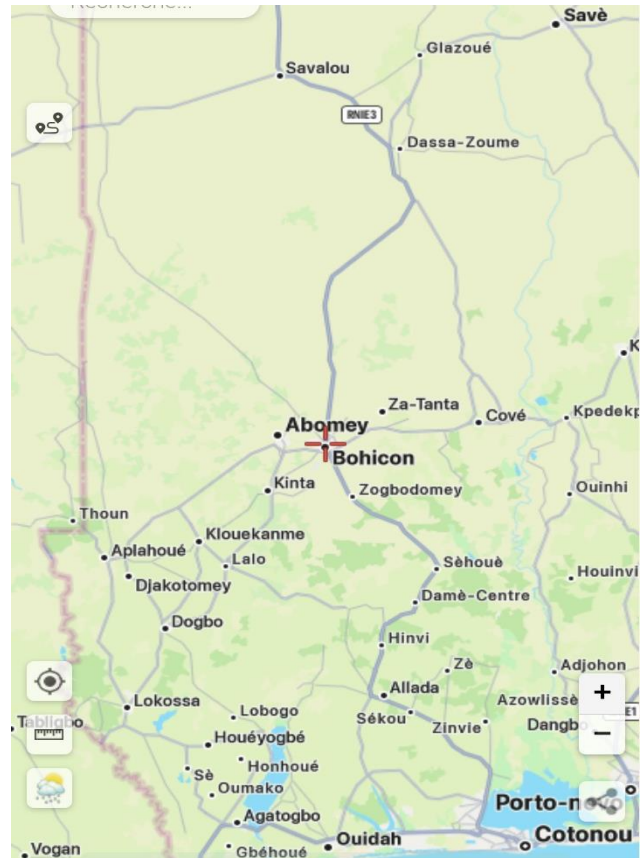


Fig. 1 Map of the Republic of Benin showing the Bohicon District Surveyed

### 3.2. Data Collection

The study was carried out in November 2024 during the small rainy season in the locations of Hèzonho and Djognangbo in the Bohicon district. These locations were surveyed to collect information about the number of Cassava's farms protected by mosquito nets, the kind of palisade of protection, and the number of mosquito nets used.

#### 3.2.1. Recording of the Number of Cassava's Farm Protected by Mosquito Nets

The farms of the locations of Hèzonho and Djognangbo in the Bohicon district were surveyed by a team of the Laboratory of Pluridisciplinary Research of Technical Teaching (LaPET), and the number of Cassava's farm protected by mosquito nets was counted and noted in some registration forms in November 2024.

3.2.2. Recording of the Kind of Palisade of Protection

In a similar way, the kind of palisade of protection was counted and noted in some registration forms in November 2024. For that, the farms of the locations of Hèzonho and Djognangbo in the Bohicon district were surveyed by a team of the Laboratory of Pluridisciplinary Research of Technical Teaching (LaPET).

3.2.3. Recording of the Kind of Mosquito Nets used in Cassava's Farm Protection

The kind of mosquito nets used in Cassava's farm protection was counted and noted in some registration forms in November 2024. For that, the farms of the locations of Hèzonho and Djognangbo in the Bohicon district were surveyed by a team of the Laboratory of Pluridisciplinary Research of Technical Teaching (LaPET).

3.2.4. Recording of the Number of Mosquito Nets used in Cassava's Farm Protection

In a similar way, the number of mosquito nets used in Cassava's farm protection was counted and noted in some registration forms in November 2024. For that, the farms of the locations of Hèzonho and Djognangbo in the Bohicon district were surveyed by a team of the

Laboratory of Pluridisciplinary Research of Technical Teaching (LaPET).

In addition, the team of LaRPET had taken photos of some mosquito nets used in the protection of Cassava's farm in the field during our surveys.

3.2.5. Data Analysis

A chi-square test for proportion comparison was performed on the data sets gathered from both locations surveyed to compare the number of mosquito nets used in Cassava's farm protection. The significance level was set at 5%.

4. Results and Discussion

4.1. Number of Cassava's Farm Protected by Mosquito Nets

The analysis of Figure 2 showed that the number of Cassava's farm protected by mosquito nets in Hèzonho and Djognangbo locations was twenty-four (24). The number of Cassava's farm protected by mosquito nets in Hèzonho location was higher than that protected by mosquito nets in Djognangbo location ( $p < 0.05$ ).

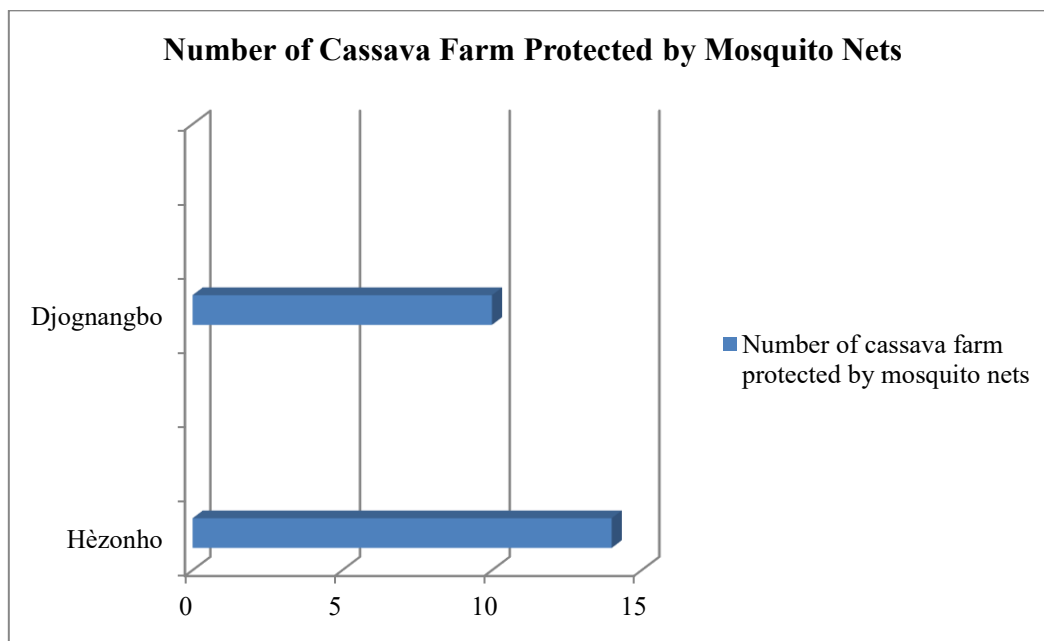


Fig. 2 Number of Cassava's farm protected by mosquito nets in both locations surveyed

4.2. Kind of Palisade of Protection

These cassava farms were protected by palisade made with dry woods. A total of 14 cassava's farms were protected by mosquito nets which were used to making

palisade in addition to dry woods in Hèzonho location whereas a total of 10 cassava's farms were protected by mosquito nets which were used to making palisade in addition to dry woods in Djognangbo location (Table 1).

Table 1. Kind of palisade of protection in both locations surveyed

Locations	Number of cassava's farm protected by mosquito nets	Kind of palisade of protection
Hèzonho	14	Mosquito nets catched with dry woods
Djognangbo	10	Mosquito nets catched with dry woods

**4.3. Kind of Mosquito Nets used in Cassava's Farm Protection**

Two kinds of mosquito nets were used in cassava's farm protection. There were: Permanet 2.0 and Olyset net. A total of 153 Permanet 2.0 were used in cassava farm

protection against 56 Olyset net in Hèzonho location whereas a total of 108 Permanet 2.0 were used in cassava farm protection against 47 Olyset net in Djognangbo location (Table 2).

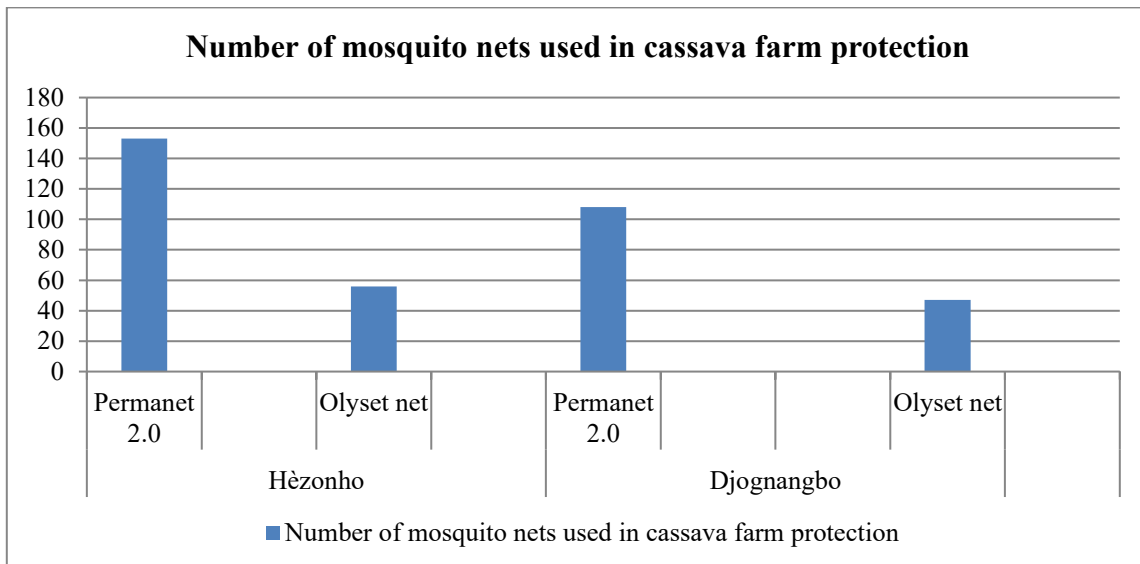
**Table 2. Kind and number of mosquito nets used in cassava's farm protection in both locations surveyed**

Locations	Kind of mosquito nets used in cassava farm protection	Number of mosquito nets used in cassava farm protection
Hèzonho	Permanet 2.0	153
	Olyset net	56
Djognangbo	Permanet 2.0	108
	Olyset net	47

**4.4. Number of Mosquito Nets used in Cassava's Farm Protection**

The number of Permanet 2.0 used in cassava's farm protection were higher than the number of Olyset net used

in both locations (Fig 3). In addition, the number of Permanets used in Hèzonho location was higher than that used in Djognangbo ( $p < 0.05$ ).



**Fig. 3 Number of mosquito nets used in Cassava's farm protection in both locations surveyed**

The following figures came from photos taken in the field during our surveys:



**Fig. 4 A cassava's farm protected by both Permanent 2.0 and Olyset net in Hèzonho location**



Fig. 5 A cassava's farm protected by Permanent 2.0 in the Djognangbo location

The analysis of Figures 4 and 5 showed that some cassava's farms were protected by Permanent 2.0 only, whereas others were protected by both Permanent 2.0 and Olyset nets.

In the current study, the number of cassava farms protected by mosquito nets in Hèzonho and Djognangbo locations was twenty-four. This cultivation was often attacked by pests, herbivore animals (beef, sheep...), as these different farms are not far from human houses.

Production is faced with many constraints, the most important of which concern the management of pests and diseases (Assogba-Komlan *et al.*, 2007). Disease management is one of the most complex crop protective measures since a variety of variables, such as plant age, genetics, environmental factors, weather, and others, can affect disease. Consequently, diagnosing a disease can be difficult (Sramkova *et al.*, 2002), particularly in the initial phases of infection. Therefore, it is essential to regularly monitor the condition of the plants and evaluate any early indications.

To control pests, producers most often resort to chemical pesticides (Ahouangninou *et al.*, 2013). These pesticides are often not used safely (failure to respect dosages, pre-harvest safety periods, and failure to use personal protective equipment) (Ahouangninou *et al.*, 2015). These practices pose risks to the health of producers, consumers, and the environment (Tomenson and Matthews, 2009; Djagni and Fok, 2019; Girard *et al.*, 2020; Gamet-Payrastre, 2020; Le Bars *et al.*, 2020). Alternative methods of pest and disease control, such as the use of natural plant extracts as biopesticides (Isman, 2015; Stevenson *et al.*, 2017), have not proven to be sufficient to control pests. It is therefore becoming important to promote other, more environmentally friendly methods of insect control, such as physical control. The use of insect netting can help reduce pest and disease

problems (Guo *et al.*, 2015). Unfortunately, this technology is unavailable to small-scale farmers in Africa.

Regarding the crop protection against insects and predators, according to Howard (2023), the crops can be safeguarded by netting against predators and pests. It can be used to keep smaller beneficial insects like bees inside while keeping out larger creatures like deer, birds, or rabbits. It also aids in protecting against potential damage brought on by wind, rain, hail, and frost. For protecting crops from invading species, which may call for additional methods like fencing or chemical sprays, netting can help reduce the amount of labour required. Farmers can significantly lower their costs for environmentally hazardous insect control solutions by adopting netting. Because of its simple installation procedure and affordable materials, netting also reduces the need for physical work for crop care. Generally, netting helps farmers safeguard their crops with minimal expense and effort from hazards posed by pests and predators. No plant will go undefended thanks to its capacity to defend a whole field or area. Farmers are able to maximise yields in this way without having to worry about losing any produce.

The Cassava's farms were protected by palisade made essentially with dry wood. The way the farmers put mosquito nets is a barrier against herbivore animals. This way, it cannot protect cultivations from the attack of pests.

Two kinds of mosquito nets were used in the protection of Cassava's farm. There were: Permanet 2.0 and Olyset net. The number of Permanet 2.0 used in Cassava's farm protection was higher than the number of Olyset nets used for this purpose. These mosquito nets were received from the different free distributions of Long-Lasting Insecticidal Nets (LLINs) by the National Malaria Control Program (NMCP). Some of these mosquito nets used in cultivation protection may be bought by farmers or received as a donation by them. Permanet 2.0 and Olyset

are impregnated with pyrethroids. According to Zaim *et al.* (2000), pyrethroids have unique modes of action such as fast knockdown and excito-repellent effects. Instead of using the mosquito nets, which are regularly distributed free by the NMCP and which are Long-Lasting Insecticidal Nets (LLINs) against mosquito bites, peasants prefer using them to protect their cultivations.

Regarding the available netting types, the insect screening is the first kind of netting frequently used in agricultural operations. Bird netting is another typical type of netting used in agriculture. Last but not least, shade mesh provides both thermal and physical protection from high temperatures and direct sunshine. These nets were different from mosquito nets, which were recommended in malaria vector control.

### Novelty of the Study

Compared to the previous studies, the originality of the current study lies in the method used. In fact, in the previous studies, the authors used nets in agriculture to protect crops. However, this study is the first to alert on the farmers' behaviors or practices in protected cultivations using mosquito nets in Cassava's farm protected in the country, as the phenomenon is scarce until now.

### Study Limitations

The current study needs more duration to be conducted with details on controls, replication, randomization, net sourcing, ethics, plot size, soil, weather, variety, environmental impact, socio-economic information, and so on. For that, further studies will be

carried out in the future in more locations of the country by taking these factors or parameters into account.

### 5. Conclusion

The untreated mosquito nets, which are not torn, are still a physical barrier against mosquito bites. Other methods to control farming pests must be vulgarized to the farmers in order to change their behaviors or practices in protected cultivations using mosquito nets. Farmers can safeguard their crops from pests and damage by using netting in agriculture, which offers a number of benefits.

### Recommendations

The Ministry of Agriculture and Fishing of Benin has to educate the farmers on the importance of using netting in agriculture and then make free distribution of these crop protection tools to them. Also, farmers must know that the mosquito nets are for malaria vector control, and netting in agriculture is for crop protection.

### Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

### Funding Statement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

### Acknowledgements

We want to thank people from Hèzonho and Djognangbo locations in the Bohicon district who have helped us in data collection.

### References

- [1] Jenry Joseph, "Management of Crop Protection and its Methods," *Global Journal of Plant and Soil Sciences*, vol. 6, no. 4, pp. 1-2, 2022. [[Publisher Link](#)]
- [2] Zhi Guo et al., "Insect-Proof Nets Affect Paddy Field Microclimate Parameters and Grain Quality of Different Japonica Rice Varieties," *Journal of Crop Science and Biotechnology*, vol. 18, no. 2, pp. 73-81, 2015. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [3] Markus Möller et al., "Measuring and Predicting Evapotranspiration in an Insect-Proof Screenhouse," *Agricultural and Forest Meteorology*, vol. 127, no. 1-2, pp. 35-51, 2004. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [4] S. Castellano et al., "Plastic Nets in Agriculture: A General Review of Types and Applications," *Applied Engineering in Agriculture*, vol. 24, no. 6, pp. 799-808, 2008. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [5] Ashraf Mahmood et al., "Effects of Shading and Insect-Proof Screens on Crop Microclimate and Production: A Review of Recent Advances," *Scientia Horticulture*, vol. 241, pp. 241-251, 2018. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [6] Giverson Mupambi et al., "The Influence of Protective Netting on Tree Physiology and Fruit Quality of Apple: A Review," *Scientia Horticulture*, vol. 236, pp. 60-72, 2018. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [7] Everlyne M. Muleke et al., "The Assessment of the use of Eco-Friendly Nets to Ensure Sustainable Cabbage Seedling Production in Africa," *Agronomy*, vol. 3, no. 1, pp. 1-12, 2012. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [8] Evangelini Kitta et al., "Effects of Cover Optical Properties on Screenhouse Radiative Environment and Sweet Pepper Productivity," *Biosystems Engineering*, vol. 122, pp. 115-126, 2014. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [9] Faustin Vidogbéna et al., "Cost: Benefit Analysis of Insect Net use in Cabbage in Real Farming Conditions Among Smallholder Farmers in Benin," *Crop Protection*, vol. 78, pp. 164-171, 2015. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [10] Françoise Assogba-Komlan et al., "Evaluation of the Effect of the Use of Anti-Insect Nets on Vegetable Production in Southern Benin," *African Journal of Agricultural Research*, vol. 17, no. 11, pp. 1463-1471, 2021. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]

- [11] Rory J. Hillocks, J.M. Thresh, and Anthony Bellotti, *Cassava Biology, Production and Utilization*, CABI Publishing, 2002. [[Google Scholar](#)] [[Publisher Link](#)]
- [12] United Nations, *World Population Prospects: The 2017 Revision*, United Nations, 2017. [Online]. Available: <https://desapublications.un.org/publications/world-population-prospects-2017-revision>
- [13] Braima James et al., *Pest Control in Cassava Farms*, Wordsmithes Printers, Lagos, pp. 1-36, 2000. [[Google Scholar](#)]
- [14] Eri Adams, and Ryoung Shin, "Transport, Signaling, and Homeostasis of Potassium and Sodium in Plants," *Journal of Integrative Plant Biology*, vol. 56, no. 3, pp. 231-249, 2014. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [15] Arvin R. Mosier, J. Keith Syers, and John R. Freney, *Assessing the Impacts of Fertilizer use on Food Production and the Environment*, Island Press, vol. 65, 2013. [[Google Scholar](#)] [[Publisher Link](#)]
- [16] Rakeeb Ahmad Mir et al., "Multidimensional Role of Silicon to Activate Resilient Plant Growth and to Mitigate Abiotic Stress," *Frontiers in Plant Science*, vol. 23, pp. 1-26, 2022. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [17] Assogba-Komlan Francoise et al., "Cultural Practices and Antinutritional Element Content (Nitrates and Pesticides) of Solanum Macrocarpon in Southern Benin," *African Journal of Food, Agriculture, Nutrition And Development*, vol. 7, no. 4, pp. 1-21, 2007. [[CrossRef](#)] [[Google Scholar](#)]
- [18] Zuzana Šramková, Edita Gregová, and Ernest Šturdík, "Chemical Composition and Nutritional Quality of Wheat Grain," *Acta Chimica Slovaca*, vol. 2, no. 1, pp. 115-138, 2009. [[Google Scholar](#)]
- [19] Ahouangninou Claude et al., "Using Aedes Aegypti Larvae to Assess Pesticide Contamination of Soil, Groundwater and Vegetables," *British Biotechnology Journal*, vol. 3, no. 2, pp. 143-157, 2013. [[Google Scholar](#)] [[Publisher Link](#)]
- [20] Claude Ahouangninou et al., "Knowledge of the Pictograms on Pesticide Bottles Among Market Gardeners in Southern Benin," *CBRST Notebooks*, vol. 22, no. 3, pp. 135-171, 2015. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [21] John A. Tomenson, and Graham A. Matthews, "Causes and Types of Health Effects During the use of Crop Protection Chemicals: Data from a Survey of Over 6,300 Smallholder Applicators in 24 Different Countries," *International Archives of Occupational and Environmental Health*, vol. 82, no. 8, pp. 935-949, 2009. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [22] Kokou K. Djagni, and Michel Fok, "Potential Dangers of Insecticide use in Cotton Farming in Togo from 1990 to 2010," *Agriculture Notebooks*, vol. 28, pp. 1-9, 2019. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [23] Lola Girard, Nathalie Reix, and Carole Mathelin, "Impact of Endocrine Disrupting Pesticides on Breast Cancer," *Gynecology Obstetrics Fertility Breast Science*, vol. 48, no. 2, pp. 187-195, 2020. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [24] Laurence Gamet-Payrastra, "Exposure to Pesticide "Cocktails": What are the Health Impacts?," *Environment Risks and Health*, vol. 19, no. 2, pp. 93-100, 2020. [[Google Scholar](#)] [[Publisher Link](#)]
- [25] Marjorie Le Bars et al., "Risk Assessment Related to Pesticide use in Cotton Farming in Mali," *Agriculture Notebooks*, vol. 29, pp. 1-9, 2020. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [26] Murray B. Isman, "A Renaissance for Botanical Insecticides?," *Pest Management Science*, vol. 71, no. 12, pp. 1587-1590, 2015. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [27] Philip C. Stevenson, Murray B. Isman, and Steven R. Belmain, "Pesticidal Plants in Africa: A Global Vision of new Biological Control Products for Local uses," *Industrial Crops and Products*, vol. 110, pp. 2-9, 2017. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [28] M. Zaim, A. Aitio, and N. Nakashima, "Safety of Pyrethroid-Treated Mosquito Nets," *Medical and Veterinary Entomology*, vol. 14, no. 1, pp. 1-5, 2000. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]