

Table 2. Fruit yield (kg ha⁻¹) of finger pepper plants applied with inorganic fertilizer and sprayed with mature coconut water.

Treatments	Concentrations of Mature Coconut Water			
Fertilizer Rate	C ₁ – 25%	C ₂ – 50%	C ₃ – 75%	C ₄ – 100%
F ₁ – 50% RR	27,844.44	33,851.11	33,065.08	36,068.89
F ₂ – 75% RR	31,550.00	33,633.33	33,800.00	37,912.00
F ₃ – 100% RR	33,582.22	33,657.14	32,216.67	27,948.00

Table 3. Net income (PhP) from one hectare finger pepper plants applied with inorganic fertilizer and sprayed with mature coconut water.

Treatments	Concentrations of Mature Coconut Water			
Fertilizer Rate	C ₁ – 25%	C ₂ – 50%	C ₃ – 75%	C ₄ – 100%
F ₁ – 50% RR	660,795.3	675,858.8	678,404.8	837,835.0
F ₂ – 75% RR	555,980.8	593,008.6	777,824.4	839,660.1
F ₃ – 100% RR	824,655.7	712,558.9	692,993.8	496,062.2

Table 4. Return on investment (ROI, %) of finger pepper plants applied with inorganic fertilizer and sprayed with mature coconut water.

Treatments	Concentrations of Mature Coconut Water			
Fertilizer Rate	C ₁ – 25%	C ₂ – 50%	C ₃ – 75%	C ₄ – 100%
F ₁ – 50% RR	713.10	724.33	729.85	886.93
F ₂ – 75% RR	596.67	612.63	798.61	856.82
F ₃ – 100% RR	826.88	714.49	686.61	488.59

Conclusions

1. The application of 75% of the recommended amount of inorganic fertilizer and spraying of the finger pepper plants with 100% concentration of mature coconut water (F₂ x C₄) produced the highest yield (37,912.00 kg ha⁻¹) and highest net income (PhP839,660.10 ha⁻¹).
2. The application of 50% of the recommended amount of inorganic fertilizer and spraying of the finger pepper plants with 100% concentration of mature coconut water (F₁ x C₄) attained the highest ROI (886.93%).

Recommendations

1. The applications of inorganic fertilizer even at lower rates from 50% and 75% and spraying with 100% concentrations of mature coconut water are recommended to attain the highest net income and ROI, respectively.
2. The application of 75% RR inorganic fertilizer and spraying of the finger pepper with 100% concentration of mature coconut water is recom-



DON MARIANO MARCOS MEMORIAL
STATE UNIVERSITY
North La Union Campus
Bacnotan, La Union

MATURE COCONUT WATER: THE YIELD BOOSTER OF FINGER PEPPER



For more information, please contact:
GENARO D. OMO
Don Mariano Marcos Memorial State University
North La Union Campus
Bacnotan, La Union

Rationale

Pepper is among the Ilocanos' favorite ingredient of pinakbet, denengdeng, sinigang, etc. Among the spices, the red or green peppers, are the most rich source of vitamin-C, A and B-complex. It also contains very high levels of essential minerals.

The World Health Organization (WHO) reported that up to 2.7 million lives could be saved annually with sufficient fruit and vegetable consumption. Low intake of fruits and vegetables is among the top 10 selected risk factors that can cause gastrointestinal cancer, heart disease and stroke.

Some of the factor on the low consumption of vegetables is the fluctuating or low supply in the market due to low yield as affected by the poor or unfertile soil condition.

However, the application of fertilizers in the soil is not always an assurance to attained optimum growth and higher crop yield because it could be affected by several factors such as the soil pH, CEC, organic matter content, moisture content, etc.

In this case, the deficiency of any of the micronutrients even in minute quantity will greatly affect the growth and yield of the plants. This could be corrected by supplementing or spraying the foliage of the plants with mature coconut water.

The mature coconut water is rich with different nutrients, phytohormones, enzymes and minerals that are necessary for the plant growth and development. Its availability is not a problem because it was just thrown away by the coconut farmers and workers in the production of copra and by the vendors at the public markets that contributes pollution in our environment.

Objectives

1. To evaluate the effect of applying different rate of inorganic fertilizer and spraying with different concentration of mature coconut water on the growth and yield of finger pepper.
2. To determine the most appropriate combination of inorganic fertilizer and mature coconut water to enhance the growth and yield of finger pepper.

Methodology

Land preparation

Plow and harrow the field 2 weeks before transplanting.

Transplanting

Transplanting was done late in the afternoon. Only one seedling will be planted per hill. The seedlings were spaced at 1.0 m. x 0.5 m.

Fertilizer Application

The plants were side dressed with 5g Urea per hill every three weeks until the whole amount of the recommended fertilizer for the respective treatments was applied.

Irrigation

The plants were irrigated immediately after transplanting. Succeeding irrigation was done every 7-10 days.

Pest Control

The plants were alternately sprayed with different kinds of insecticides every two or three weeks during the vegetative stage. However, spraying with insecticides during the fruiting period was done once a month.

Weeding

Weeding was done occasionally when the grasses became tall.

Collection and Spraying With Coconut Water

The coconut water used in spraying the pepper plant was collected from the public market. Collection was done on the day of spraying. The concentrations of the solutions sprayed was based on the required mixture for the respective treatments. The solution was sprayed to the whole leaves of the pepper plants during their vegetative stage but not to exceed 400 L ha⁻¹ during their fruiting period. Spraying was done every two

weeks from planting and throughout the fruiting or productive period.

Treatments:

Factor A – Rate of Inorganic Fertilizer

- F1 – Applied with 50% Recommended Rate Inorganic Fertilizer
- F2 – Applied with 75% Recommended Rate Inorganic Fertilizer
- F3 – Applied with 100% Recommended Rate Inorganic Fertilizer

Factor B – Concentrations of Coconut Water Solution

- C1 – Sprayed with 25% Concentration of Mature Coconut Water Solution
- C2 – Sprayed with 50% Concentration of Mature Coconut Water Solution
- C3 – Sprayed with 75% Concentration of Mature Coconut Water Solution
- C4 – Sprayed with 100% Concentration of Mature Coconut Water Solution

Results

Treatments	Concentrations of Mature Coconut Water			
	C ₁ – 25%	C ₂ – 50%	C ₃ – 75%	C ₄ – 100%
F ₁ – 50% RR	35.80	35.97	36.08	36.12
F ₂ – 75% RR	38.34	39.53	39.67	40.01
F ₃ – 100% RR	40.32	41.32	42.14	43.63