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Influence of Light Intensity on The Growth and Yield of Blue Ternate (Clitoria Sp.)

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Abstract: *The growth of a plant relies on a series of interactions involving the presence of sunlight. Photosynthesis enables plant metabolism processes to take place and provides the energy that fuels these processes. This research study aimed to evaluate the impact of varying light intensities on the seed germination, growth and productivity of blue ternate plants (Clitoria ternatea L.). This was conducted at the University of Southern Mindanao, Kabacan, Cotabato, Philippines from July 2019 to June 2020. This was carried out in Split Plot Design arranged in Randomized Complete Block Design with four replications. Factor A refers to the exposure of Clitoria to different light intensities (high – 18,000-45,000 lux; medium - 3,000-5,200 lux; low – 1,300-2,200 lux) and factor B refers to the methods of planting (directly planted in the field and potted in polyethylene bags). The production of Clitoria flowers was significantly influenced by the interaction of light intensity and planting method. Highest flower yield was recorded in plants grown in areas with high light intensity and were directly planted in the field. In terms of pod and seed production, higher light intensity resulted in higher yield; however, no significant difference was noted between direct field-planted and potted Clitoria plants. The study generally implies that capability of Clitoria plants to produce flowers and pods was significantly affected by light intensity, wherein exposure in higher light intensity resulted in more flowers, pods and seeds.*

Keywords: light intensity, blue ternate, Clitoria

1. Introduction

Plants require light for their optimum growth and development. The three different aspects of light, namely: quantity, quality and duration, have also a significant influence on growth. Crops do not have the same preferences in terms of sunlight. Plants primarily use light as a source of energy for photosynthesis. Photosynthetic rate is highly dependent on the light quantity; the photosynthesis is higher as the Photosynthetic Active Radiation (PAR) increases (Lopez, 2021). There were seeds that best germinate under dark conditions and might also be inhibited by light, and there were also some species which require light to germinate (Miles and Brown, 2007). Chachalis and Reddy (2000) enumerated that the environmental factors which are influential to seed germination are light, temperature, pH and soil moisture.

Clitoria ternatea L. (Family Fabaceae; sub-family Papilionaceae) is popularly known as butterfly or blue pea, and blue ternate. Flowers of Clitoria were visualized to have almost similar shape of human female genitals, therefore the Latin name of the Genus Clitoria is derived from clitoris. This perennial legume originated from Tropical Asia and broadly distributed to the Philippines, India, South and Central America (Barik et al., 2007).

Ecologically, the Clitoria prefers full sunlight, however sometimes partially shaded is more favorable. It shows epigeal germination and the radicle emerges within 48 to 72 hours and seedlings emerge in 3 to 6 days. Early growth is rapid in warm moist condition (Cook et al., 2005).

In this study, Clitoria crop was used as test plants and subjected for evaluation on light intensities and planting methods. This study was laid out in a Split Plot Design arranged in Randomized Complete Block Design (RCBD) with four replications. Factor A refers to the exposure of the Clitoria plants to different light intensities (A1 – high, A2 – medium, A3 – low) and Factor B refers to the methods of planting (B1 – directly planted in the field, B2 – potted in polyethylene bags).

The light intensity was monitored using a photometer. The experimental site with the highest light intensity (Factor A1) had an average daily intensity of 18,000 lux from 7:00 o'clock in the morning (AM) until 5:00 o'clock in the afternoon (PM), having a maximum of 45,000 lux from 12:00 noon until 4:00 PM. On the other hand, the partially-shaded area with medium light intensity (Factor A2), had an average daily light intensity of 3,000 lux with maximum intensity of 5,200 lux at 2:00 PM. The presence of trees in the area served as the source of shading. On the contrary, the site with the lowest light intensity (Factor A3) was recorded with an average of 1,300 lux daily light intensity, with maximum of 2,200 lux at 2:00 PM. This study was conducted at the University of Southern Mindanao, Kabacan, Cotabato, Philippines from July 2019 to June 2020.

2. Literature Review

According to Yang et al. (2018), light quantity and quality are the most critical environmental factors which significantly affect the physiology, biochemistry and over-all growth of any crop. In fact, even a slight changes in the intensity of light may result in considerable variations on the plant's morphology and structure (Wu et al., 2017). Light intensity is the one of the main aspects which controls the central process of plants, such as cell division, photosynthesis, seed germination and growth, leaf structure and expansion, bud formation, flower initiation, fruit development and maturation, as well as crop's senescence. Increasing light intensity up to a moderate level generally improved various plant processes (Yang et al., 2015; Wu et al., 2016) which bring dramatic physiological and developmental changes to occur, which may also lead to rapid increase of these processes.

The study of Tanaka et al. (1980) showed that in bean plants, the most vigorous plants, with most numbered leaves and best pods were attained when exposed to highest amount of sunlight. Decreasing light intensity resulted also in gradual decrease in plant vigor. In fact, mungbean plants receiving the greatest amount of light were the most vigorous which produced the best and most numbered leaves, and the best pods. There was a gradual decrease in the plant vigor with decreasing light intensity. In fact, etiolation and death of plants grown under 280 lux was observed within 3 to 4 weeks after sowing.

Smaller and thinner leaves of plants are generally produced under low light conditions than corresponding leaves in full sunlight conditions (Wu et al., 2017). Shading environments increased the height of the plant and rate of lodging which hinders the transportation of water, nutrients and minerals and other photosynthetic products. Moreover, plants survive and grow best at optimum temperatures within their varied range. Some crops can adapt wide ranges of

temperature, but there are also species which can tolerate only narrow temperature range. However, the survival of the plants is largely dependent when the temperature allows them to bring about chemical reactions. Unfavorable temperatures may result in temperature stress in plants which further leads to poor development and stunted plant growth (Manjula et al., 2013).

The study of Staples (1992) revealed that Clitoria plants are moderately shade-tolerant but can normally grow in full sunlight. It is generally not suited to locations with frequent or severe frosts. It needs moderate temperature down to 25ºC. It also stands up well in hot summer temperatures and having low frost tolerance. C. ternatea prefers to grow in humid and sub-humid habitats at elevations from sea level to 1600 to 1800 m and mean annual temperature ranging from 15 to 28°C.

3. Discussion and Conclusion

Vegetative Stages of Clitoria

No significant difference among treatment means was noted in the percentage germination of Clitoria seeds at 21 days after sowing (DAS) as influenced by light intensities and planting methods (Table 1). At 42 DAS, the interaction of light exposure and planting method significantly influenced plant height, wherein plants under both high and medium light intensity were comparably taller under field condition. Stunted seedlings were consistently noted in areas with low light intensity regardless of the planting methods.

Leaf count at 42 DAS resulted in a significant interaction between light intensity and planting method. Highest leaf count was recorded in field-planted Clitoria which were exposed in high light intensity. This was found comparable in potted plants under high and medium light intensities. In terms of the number of leaflets, statistically higher data was recorded in high light intensity area, and in potted plants than in plants under field condition.

In the study of Kesumawati (2020), wherein chili plants were grown at three shading levels (normal sunlight, 25% shading and 50% shading), there was a reduction in the leaf area and number of chili plants with decreasing level of light. Under full sunlight, highest growth and accumulation of essential oil was recorded. Dropped reproductive structures were observed with increased shading. The number and mass of leaves, leaf area, plant height, relative growth rate (RGR), height and dry phytomass increased with increasing moisture and light availability (Bargali, 1997).

Table 1: Percentage (%) germination, plant height, leaf and leaflet counts of *Clitoria* seeds as influenced by light intensities and planting methods. University of Southern Mindanao, Kabacan, Cotabato. 2020.

Light Intensity (lux)		Planting Methods		Mean
		Field	Potted	
Percentage germination at 21 DAS				
Low	(1,300 – 2,200)	66.68	68.00	**67.34**
Medium	(3,000 – 5,200)	67.33	69.33	**68.33**
High	(18,000 – 45,000)	66.68	73.45	**70.07**
Mean		**66.89**	**70.26**	
Plant height at 42 DAS				
Low	(1,300 – 2,200)	36.63^{b}	63.05^{b}	**49.84**
Medium	(3,000 – 5,200)	104.78^{a}	75.13^{b}	**89.96**
High	(18,000 – 45,000)	131.38^{a}	116.50^{a}	**123.94**
Mean		**90.93**	**84.89**	
Leaf count at 42 DAS				
Low	(1,300 – 2,200)	10.07^{b}	8.50^{b}	**9.29**
Medium	(3,000 – 5,200)	11.85^{b}	24.25^{a}	**18.05**
High	(18,000 – 45,000)	49.55^{a}	26.45^{a}	**38.00**
Mean		**23.82**	**19.73**	
Leaflet count at 42 DAS				
Low	(1,300 – 2,200)	21.58	31.20	**26.39^{c}**
Medium	(3,000 – 5,200)	30.10	54.30	**42.20^{b}**
High	(18,000 – 45,000)	65.25	74.65	**69.95^{a}**
Mean		**38.98^{b}**	**53.38^{a}**	

Factors		Percentage germination	Plant height	Leaf count	Leaflet count
Light intensity		0.7871	0.0000	0.0000	0.0000
Planting method		0.2885	0.0799	0.0799	0.0040
Interaction		0.7271	0.0002	0.0002	0.2362
CV (%)	(a)	11.40	15.38	15.38	9.33
	(b)	10.66	15.75	23.32	19.91

Reproductive Stages of *Clitoria*

Flower count of *Clitoria* from 60 to 240 DAS is presented in Table 2. In terms of light intensity, significant differences were observed throughout the duration of the study wherein plants exposed in high light intensity condition had consistently attained the highest flower count. At 240 DAS, plants under high light intensity had 612.70 flowers per plant and were found statistically different with the plants exposed to medium (mean of 361.20) and low light intensities (90.65 flower count per plant). With regards to the two planting methods, no significant difference was noted from 60 to 150 DAS, however, numerically higher flower count was observed in plants which were directly planted in the field. At 180 and 210 DAS, plants under field condition had consistently higher flower count than the potted plants. Figure 1shows the stand of *Clitoria* plants under different light intensities at 150 DAS.

The result implies that light intensity significantly affected the production of flowers, and that exposure to high light intensity in particular resulted in the highest flower count. This is in

affirmation with the studies of some researchers (Tanaka et al., 1980) on soybean that shading effect significantly reduced flower production. The lower amount of nitrogen accumulation in shaded soybean plants could also be attributed to the reduction in nodule and root growth.

The table also presents the number of *Clitoria* pods per plant at 90 to 210 DAS. ANOVA revealed highly significant differences on the developed pods due to the interaction of light intensity and planting method at 90 and 120 DAS. No pod development was noted at low light intensity up to 120 DAS.

The interaction of light intensity and planting method did not significantly influence the number of pods at 150 to 210 DAS. There was also no significant difference observed in terms of planting methods. The significant differences were only noted on the plants exposed at different light intensities, wherein plants with high light intensity had the highest pod development. At 210 DAS, the plants exposed to high light intensity developed more pods with 71.83 pods per plant as compared to plants exposed to medium and light intensities with 30.94 and 8.03 pods, respectively.

The above result confirms the study of Kurosaki and Yumoto (2003) on soybean that low temperature and shading most especially during flowering season highly reduced the number of pods and seed yield. The combination of shading and low temperature caused higher damage and negative impact compared to either shading treatment or low temperature alone. When sufficient sunlight is combined with low temperature during the flowering period, leaf temperature may be high enough for photosynthetic activities and assimilate translocation.

Mann and Jaworski (1970) stated also that number of pods per plant is reduced with shading condition. The insufficiency in the amount of sunlight influences the decrease in photosynthetic activities of the plants resulting in abscission of the pods. According to Sengupta et al. (1977), pod development is the most sensitive growth stage to light reduction.

Figure 1: Experimental site showing *Clitoria* plants grown at high (A1), medium (A2) and low light intensities (A3) at 150 DAS.

Legend:

A1 - 18,000 to 45,000 lux
A2 - 3,000 to 5,200 lux
A3 - 1,300 to 2,200 lux

Table 2. Number of flowers and pods of *Clitoria* as influenced by light intensity and planting methods at 60 to 240 days after sowing (DAS). University of Southern Mindanao, Kabacan, Cotabato. 2020

Light Intensity	FLOWERS Planting Methods		Mean[1/]	PODS Planting Methods		Mean[1/]
	Field	Potted		Field	Potted	
			60 DAS			
Low	0.00^{d}	0.00^{d}	**0.00**			
Medium	3.23^{d}	3.53^{c}	**3.38**			
High	16.25^{a}	8.68^{b}	**12.47**			
Mean	**6.49**	**4.07**				
			90 DAS			
Low	0.98	1.45	**1.21^{c}**	0.00^{d}	0.00^{c}	**0.00**
Medium	5.25	5.80	**5.53^{b}**	0.25^{c}	1.58^{bc}	**0.92**
High	14.75	12.55	**13.65^{a}**	15.20^{a}	3.85^{b}	**9.53**
Mean	**6.99**	**6.60**		**5.15**	**2.72**	

			120 DAS			
Low	1.60	2.03	**1.81^{c}**	0.00^{c}	0.00^{c}	**0.00**
Medium	5.20	4.03	**4.61^{b}**	1.68^{bc}	2.75^{bc}	**2.22**
High	21.50	17.90	**19.70^{a}**	16.78^{a}	6.90^{b}	**11.84**
Mean	**9.43**	**7.98**		**6.15**	**3.22**	
			150 DAS			
Low	1.63	2.35	**1.99^{c}**	1.38	1.70	**1.54^{c}**
Medium	4.13	3.13	**3.62^{b}**	11.50	12.13	**11.81^{b}**
High	18.30	13.25	**15.78^{a}**	20.80	18.05	**19.43^{a}**
Mean	**8.02**	**6.24**		**11.23**	**10.63**	
			180 DAS			
Low	43.40	32.90	**38.15^{c}**	3.48	2.48	**2.98^{c}**
Medium	243.50	216.60	**230.05^{b}**	15.78	15.43	**15.60^{b}**
High	381.20	320.60	**350.90^{a}**	35.53	31.03	**33.27^{a}**
Mean	**222.70^{a}**	**190.03^{b}**		**18.26**	**16.31**	
			210 DAS			
Low	67.60	63.00	**65.30^{c}**	7.90	8.15	**8.03^{c}**
Medium	266.30	247.70	**257.00^{b}**	30.08	31.80	**30.94^{b}**
High	587.10	494.60	**540.85^{a}**	77.75	65.90	**71.83^{a}**
Mean				**38.58**	**35.28**	
			240 DAS			
Low	80.30^{c}	101.00^{c}	**90.65**			
Medium	395.00^{b}	327.40^{b}	**361.20**			
High	640.80^{a}	584.60^{a}	**612.70**			
Mean[2/]	**372.03**	**337.67**				

Flowers of *Clitoria*

Factors	60 DAS	90 DAS	120 DAS	150 DAS	180 DAS	210 DAS	240 DAS
Light intensity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Planting method	0.0083	0.6700	0.2740	0.2097	0.0120	0.0154	0.0601
Interaction	0.0000	0.3477	0.1216	0.1367	0.6261	0.1478	0.0075
CV (%) (a)	9.69	13.23	15.75	16.50	13.11	12.31	7.93
(b)	6.93	16.79	11.03	16.47	6.60	5.04	4.00

Pods of *Clitoria*

Factors	90 DAS	120 DAS	150 DAS	180 DAS	210 DAS
Light Intensity	0.0000	0.0000	0.0000	0.0000	0.0000
Planting method	0.3275	0.0064	0.8010	0.1997	0.3108
Interaction	0.0000	0.0000	0.3752	0.1292	0.0964
CV (%) (a)	7.55	15.69	12.26	13.65	17.00
(b)	11.66	11.33	14.26	9.77	16.13

Clitoria Yield

Table 3 presents the influence of different light intensities and planting methods on the cumulative yield of the flowers, pods and seeds of *Clitoria*. The interaction of the two factors had significantly affected both the flower yield and the FloPoSe yield (flower yield + pod yield + seed yield) of *Clitoria*. However, in terms of the pod and seed yields, there was no significant interaction between the two factors; only the variation in light intensities resulted in significant differences on the means.

Variation on the number of flowers per plant on the six planting conditions contributed greatly on the significant flower yield difference from 60 up to 240 DAS. It was consistently recorded

that field-planted *Clitoria* plants with high light intensity attained the highest flower yield of 10.89 t/ha. This was followed by potted plants which were also exposed to high light intensity with 9.34 t/ha. Moreover, as observed in plants grown under medium and low light intensities at 240 DAS, no flower yield difference was observed when plants were subjected to either field or potted conditions. Under medium light intensity, flower yields were 4.99 to 5.69 t/ha, while at low light intensity, the yield was only up to 1.39 t/ha.

Pod yield at 180 and 240 DAS is also shown in Table 4. No significant interaction was noted among light intensities and planting methods. Only light intensity influenced pod yield wherein the yield range of 0.07 to 0.65 t/ha was recorded at 240 DAS with the high light intensity condition as the highest yielding. Yield of field-planted *Clitoria* was numerically higher than the plants in potted condition.

Table 5 also reveals that the interaction of light intensity and planting method did not significantly affect the seed yield, but the variation in light intensity also resulted in significant differences among the treatment means. Seed yield at 240 DAS ranged from 0.05 to 0.44 t/ha. Plants under high light intensity resulted in highest pod yield, followed by plants with exposure to medium light intensity.

With regards to the 'FloPoSe' yield of *Clitoria*, significant differences on the treatment means were noted as a result of the interaction of light intensity and planting method. Plants which were directly planted on the field and were subjected to high light intensity of sunlight attained the highest FloPoSe yield of 12.06 t/ha, followed by potted plants with high light intensity with 10.34 t/ha. Both field-planted and potted plants under medium light intensity resulted in comparable FloPoSe yield of 6.16 and 5.48 t/ha, respectively. On the other hand, low yield ranging from 1.34 to 1.50 t/ha was generally attained by plants with exposure to low sunlight intensity.

Table 3: Cumulative yield (t/ha) of the flowers, pods and seeds of Clitoria sp. as affected by different light intensities and planting methods from 60 to 240 DAS. University of Southern Mindanao, Kabacan, Cotabato. 2020

	Flower Yield (t/ha)[1/]							Pod Yield (t/ha)		Seed Yield (t/ha)		FloPoSe[4/]
	60 DAS[1/]	90 DAS[2/]	120 DAS[2/]	150 DAS[2/]	180 DAS[2/]	210 DAS[1/]	240 DAS[1/]	180 DAS[3/]	240 DAS[3/]	180 DAS[3/]	240 DAS[3/]	(t/ha)[1/]
Low LI + Field	0.00^{e}	0.02^{c}	0.06^{b}	0.10^{c}	0.35^{d}	0.75^{d}	**1.23^{d}**	0.02	**0.07**	0.01	**0.05**	**1.34^{d}**
Medium LI + Field	0.02^{d}	0.14^{bc}	0.27^{b}	0.36^{c}	1.79^{c}	3.36^{c}	**5.69^{c}**	0.09	**0.29**	0.06	**0.20**	**6.16^{c}**
High LI + Field	0.15^{a}	0.49^{a}	0.99^{a}	1.43^{a}	3.67^{a}	7.12^{a}	**10.89^{a}**	0.22	**0.70**	0.15	**0.47**	**12.06^{a}**
Low LI + Potted	0.00^{e}	0.04^{c}	0.08^{b}	0.14^{c}	0.42^{d}	0.79^{d}	**1.39^{d}**	0.02	**0.07**	0.01	**0.04**	**1.50^{d}**
Medium LI + Potted	0.04^{c}	0.17^{b}	0.27^{b}	0.34^{c}	1.61^{c}	3.07^{c}	**4.99^{c}**	0.10	**0.28**	0.07	**0.19**	**5.48^{c}**
High LI + Potted	0.08^{b}	0.37^{a}	0.80^{a}	1.11^{b}	2.99^{b}	5.90^{b}	**9.34^{b}**	0.19	**0.60**	0.13	**0.41**	**10.34^{b}**

[1/] - Means in the same column with common letter superscripts are not significantly different at 1% level (Tukey's Test).
[2/] - Means in the same column with common letter superscripts are not significantly different at 5% level (Tukey's Test).
[3/] - Light intensity x planting methods is not significant; Light intensity has significant results at 1% level (Tukey's Test).
[4/] - FloPose yield is the sum of flower yield, pod yield and seed yield (Tukey's Test).

Factors		Flower Yield							Pod Yield		Seed Yield		FloPoSe
		60 DAS	90 DAS	120 DAS	150 DAS	180 DAS	210 DAS-	240 DAS	180 DAS-	240 DAS	180 DAS	240 DAS[/]	
Light intensity		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001	0.0000	0.0000
Planting method		0.0001	0.2021	0.1162	0.0526	0.0295	0.0042	0.0019	0.1726	0.2116	0.1445	0.2009	0.0012
Interaction		0.0000	0.0190	0.0447	0.0242	0.0390	0.0083	0.0059	0.3100	0.1927	0.3853	0.1751	0.0035
CV (%)	a	19.24	29.71	28.00	25.32	14.80	16.93	15.88	29.62	8.05	29.27	8.37	14.24
	b	12.22	22.30	20.28	19.44	13.73	9.03	7.01	16.86	18.21	17. 47	17.31	6.41

Table 4: Pod yield (t/ha) of *Clitoria* sp. as affected by different light intensities and planting methods at 180 and 240 DAS. University of Southern Mindanao, Kabacan, Cotabato. 2020.

Light Intensity (lux)		POD YIELD Planting Methods			SEED YIELD Planting Methods		
		Field	Potted	Mean[1/]	Field	Potted	Mean[1/]
				180 DAS			
Low	(1,300 – 2,200)	0.02	0.02	**0.02[c]**	0.01	0.01	**0.01[c]**
Medium	(3,000 – 5,200)	0.10	0.10	**0.10[b]**	0.07	0.06	**0.07[b]**
High	(18,000 – 45,000)	0.22	0.19	**0.21[a]**	0.15	0.13	**0.14[a]**
Mean		**0.11**	**0.10**		**0.08**	**0.07**	
				240 DAS			
Low	(1,300 – 2,200)	0.07	0.06	**0.07[c]**	0.05	0.04	**0.05[c]**
Medium	(3,000 – 5,200)	0.28	0.29	**0.29[b]**	0.19	0.20	**0.20[b]**
High	(18,000 – 45,000)	0.70	0.60	**0.65[a]**	0.47	0.41	**0.44[a]**
Mean		**0.35**	**0.32**		**0.24**	**0.22**	

Factors	Pod Yield		Seed Yield	
	180 DAS	240 DAS	180 DAS	240 DAS
Light intensity	0.0001	0.0000	0.0001	0.0000
Planting method	0.1726	0.2116	0.1445	0.2009
Interaction	0.3100	0.1927	0.3853	0.1751
CV (%) (a)	29.62	8.05	29.27	8.37
(b)	16.86	18.21	17.47	17.31

Above results and findings indicate that the flowers, pods and seed yield of *Clitoria* plants were maximized when plants were given favorable planting conditions, particularly exposure to high light intensity and directly planting in the field (Figure 2). Figures 3 and 4 show the stand of *Clitoria* plants under medium and low light intensity at 210 DAS.

An increase in pod count per plant generally results in increasing yield (Peksen, 2007). The upper limits on seed size and seed count per pod are confined genetically; however, these two components can still fluctuate enough to produce sizable yield increases. Dapaah et al. (1999) added that pod count per plant significantly affect seed yield.

Figure 2: Experimental site showing *Clitoria* plants grown with high light intensity at 210 DAS

Figure 3: Experimental site showing *Clitoria* plants grown with medium light intensity at 210 DAS

The findings of Graham and Ranalli (1997) mentioned that stressful conditions like moisture deficiency or excessive temperature can reduce yield of beans due to reduction in one or more of the reproductive components. In particular, beans are susceptible to drought during flowering,

with significant abortion of flowers and pods occurring when water shortage occurs at this time. On the contrary, Nakano et al. (1998) reported that flowers which have already opened and immature pods were not heat-sensitive in the common bean.

Figure 4: Experimental site showing *Clitoria* plants grown with low light intensity at 210 DAS.

Summary of Results

Results and findings of the study were summarized as follows:

1. Seed germination and leaf count were not significantly affected by the interaction of light intensity and planting method.
2. Interaction of light intensity and planting method significantly influenced plant height (35 and 42 DAS), flower production from 60 to 240 DAS.
3. Highest flower yield was recorded in plants which were directly planted in the field than potted plants for plants grown in areas with high light intensity.
4. Comparable flower yields were noted between the two planting methods used, pot and field, for plants with medium and low light intensity.
5. Pod production was significantly influenced by different light intensities, but no significant difference was noted between direct field-planted and potted *Clitoria* plants. Highest pod and seed yields were recorded in plants with high light intensity condition.

Conclusion

Clitoria plants can grow, thrive and adapt with various light intensities and planting methods; however, the capability to produce flowers and pods was significantly affected by light intensity. Exposure in higher light intensity also resulted in more flowers, pods and seed yield.

Recommendation

To maximize the productivity of the crop, exposure of the plants to high light intensity is highly recommended.

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