

BIBLIOGRAPHY

SELVINO, JOYCE L. May 2013. Response of Benguet Lily , (*Lilium philippinensis*), To Different Light Levels and Slow Release Fertilizer Treatments. Benguet State University, La Trinidad, Benguet.

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ABSTRACT

The study was conducted at the Ornamental Horticulture Research Area, Benguet State University, La Trinidad and Km. 24, Caliking, Atok, from September 2012 to April 2013 to determine the response of Benguet Lily plants to different light levels and different kinds of slow release fertilizer application.

Results show that Benguet Lily plants grown under full sun condition had significantly improved vegetative growth producing taller plants with ten additional leaves and thicker stems.

Benguet Lily plants applied with slow release fertilizer Multicote at 6 g/ 15 cm PEP pot had significantly improved the growth of the Benguet Lily producing taller plants with ten additional leaves and thicker stems, with longer stem length at harvest.

Benguet Lily plants applied with slow release fertilizer Multicote at 6 g/ 15 cm PEP pot grown under full sun had significantly improved vegetative growth producing taller plants with ten additional number of leaves and thicker stems, earlier reproductive growth,



producing plants with the earliest flower bud formation and better cutflower quality producing longer stems compared to plants applied with the other fertilizer treatments.

Results show that Benguet Lily plants grown under Atok, Benguet condition had improved vegetative growth with taller plants, ten additional leaves, thicker stems, earlier flower bud formation, and longer stem length than those grown in BSU-Cabanao, La Trinidad.

Multicote (17-17-17) is therefore, recommended as a slow release fertilizer for Benguet Lily grown under full sun condition which is the best light level to produce taller Benguet Lily plants with longer and thicker stems and more leaves at flowering grown in Atok, Benguet.



RESULTS AND DISCUSSION

Final Height at Flowering (cm)

Effect of light levels. The effect of light levels on the final height at flowering of Benguet lily is shown in Table 1. Results showed that there were highly significant differences on the final height of Benguet Lily plants at flowering. Benguet Lily plants grown at Atok, Benguet under full sun condition were taller with a mean of 72.28 cm. and were significantly taller than those grown under partial shade with a mean of 69.34 cm. Benguet lilies planted at BSU-Cabanao grown under full sun condition were also taller than the Benguet lily grown under partial shade.

Effect of slow release fertilizer. Highly significant differences were obtained on the final height at flowering of Benguet Lilies as shown in Table 1. Application of Multicote (17-17-17) slow release fertilizer promoted vegetative growth by producing the tallest plants with a mean of 84.27 cm; while the plants applied with Chamba slow release fertilizer were the shortest with a mean of 60.05 cm. and grown at Atok, Benguet. Benguet Lilies applied with Multicote were the tallest plant with a mean of 67.28 cm. and grown at BSU-Cabanao. Plants treated with Chamba were the shortest with a mean of 49.70 cm.

Antonio (2006) found that application of Multicote promoted vegetative growth by producing the tallest plants at flowering.

Interaction effect. Results showed highly significant interaction effects obtained between the two light levels and the different slow release fertilizers in plants grown at Atok, Benguet as shown in (Figure 9). Benguet Lily grown under full sun and applied with Multicote(17-17-17) were the tallest with a mean of 84.4 cm. but were comparable to plants that were grown under partial shade and applied with Multicote with a mean of 84.11 cm.



These was followed by the Benguet Lilies grown under full sun applied with Osmocote (14-14-14) with a mean of 77.07 cm. Benguet Lily grown under full sun and partial shade applied with Osmocote (18-6-12) with a mean of 72.1cm. and 70.57 cm.; respectively. Benguet Lily grown under partial shade applied with Chamba slow release fertilizer had a mean of 64.53 cm. Shortest plants were those grown under partial shade and applied with Osmocote (18-6-12) and those grown under full sun and applied with Chamba slow release fertilizer with a mean of 58.13 cm and 55.57 cm.; respectively.

Table 1. Final height at flowering (cm)
Means with a common letter are not significantly different at 5% level by DMRT

TREATMENT	<u>FINAL HEIGHT AT FLOWERING (cm)</u>	
	ATOK, BENGUET	BSU- CABANAO
<u>Light Levels</u>		
Partial shade (500-1000 fc)	69.34 ^b	47.33 ^b
Full sun (<1000 fc)	72.28 ^a	67.34 ^a
<u>Slow Release Fertilizer</u>		
Multicote (17-17-17)	84.27 ^a	67.28 ^a
Osmocote (14-14-14)	67.60 ^c	59.22 ^b
Osmocote (18-6-12)	71.33 ^b	53.15 ^c
Chamba (18-6-12)	60.05 ^d	49.70 ^c
Coefficient of Variation	2.96%	5.76%



Result shows highly significant interaction effects obtained between the two light levels and the different slow release fertilizers grown at BSU- Cabanao as shown in (Figure 10). Plants grown under full sun applied with different fertilizers were the tallest with a mean that ranges from 69.0 to 65.4 cm. but were comparable to Benguet Lily plants grown under partial shade and were applied with Multicote with a mean of 65.57 cm. These was followed by the plants grown under partial shade and were applied with Osmocote (14-14-14) with a mean of 65.57 cm. Benguet lilies grown under partial shade applied with Osmocote (18-6-12) and Chamba slow release fertilizer had a mean of 32.87 cm. and 36.87 cm; respectively.

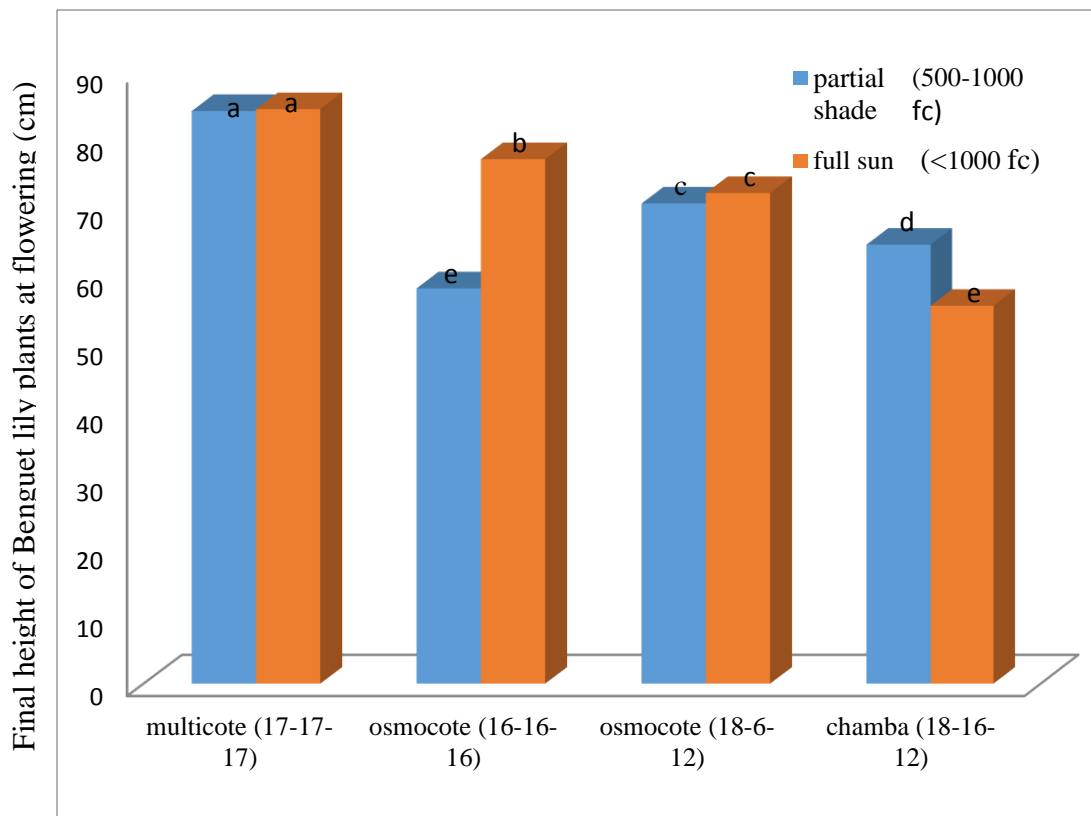


Figure 9. Final height of Benguet Lily plants at flowering (cm) as influenced by light levels and different slow release fertilizers grown at Atok, Benguet (mean with a common letter are not significantly different at 5% level by DMRT)



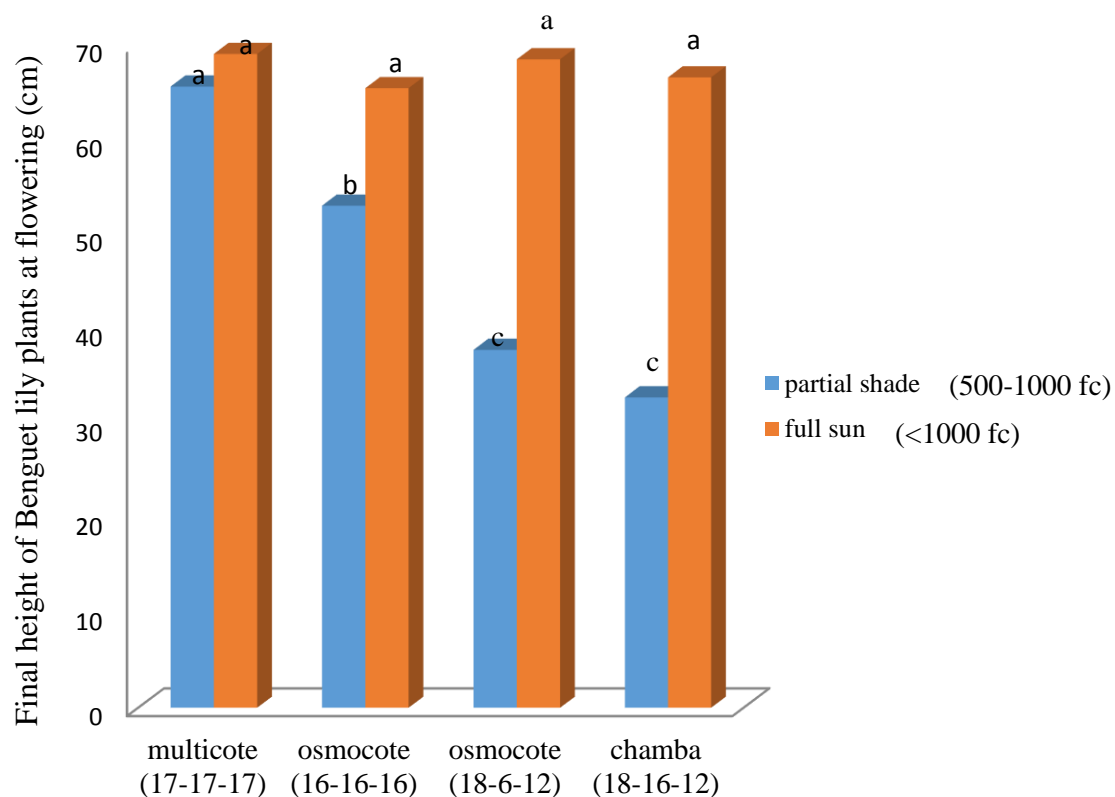


Figure 10. Final height of Benguet Lily plants at flowering (cm) as influenced by light levels and different slow release fertilizers grown at BSU-Cabanao (mean with a common letter are not significantly different at 5% level by DMRT)

Number of Leaves per Plant at Flowering

Effect of light levels. There were highly significant differences on plants grown under partial shade and full sun condition as shown on Table 2. Plants grown under full sun had higher leaf count with a mean of 54.08 compared to the Benguet Lilies grown partial shade with a mean of 44.00 under Atok, Benguet condition. Plants grown under partial shade had higher leaf count with a mean of 51.75 followed by the plants grown under full sun with a mean of 33.82 grown at BSU-Cabanao.

Gasilang (2010) found that the plants grown under full sun had higher leaf count.



Effect of slow release fertilizer. In table 2 there were highly significant differences on the different kinds of slow release fertilizers applied with regards to the number of leaves per plant at flowering grown under Atok, Benguet condition. Application of Multicote enhanced the development of more leaves with a mean of 64.33 followed by Osmocote (14-14-14) with a mean of 49.67. Benguet Lily plants grown at BSU-Cabanao shows no significant differences on the different kinds of slow release fertilizers applied. However, Multicote had the highest number of leaves with a mean of 47.47 followed by Osmocote (14-14-14) with a mean of 43.17.

Interaction effect. Statistical analysis showed highly significant differences obtained between the light levels and different slow release fertilizers grown at Atok, Benguet shown in (Figure 11). Benguet lilies grown full sun and were applied with Multicote had the highest number of leaves with a mean of 74.67. These was followed by plants grown full sun and were applied with Osmocote (14-14-14) with a mean of 54.67 but were comparable to plants grown under partial shade that were applied with Multicote with a mean of 54.0. Benguet lilies grown full sun and were applied with Chamba slow release fertilizer had a mean of 47.67. Benguet lily grown partial shade applied with Osmocote (14-14-14) had a mean of 44.67 comparable to plants grown partial shade applied with Chamba (18-6-12) and grown full sun applied with Osmocote (18-6-12) with a mean of 40.33 and 39.33; respectively. Result shows highly significant differences obtained between the light levels and different slow release fertilizers grown at BSU-Cabanao as shown in (Figure 12). Benguet lilies grown partial shade and were applied with Multicote had the highest number of leaves with a mean of 60.0 but were comparable to plants grown partial shade and were applied with Osmocote (14-14-14) with a mean of



54.33. These was followed by plants grown partial shade that were applied with Osmocote (18-6-12) with a mean of 48.67 but were comparable to plants grown partial shade applied with Chamba (18-6-12) with a mean of 44.0. Benguet lilies grown full sun that were applied with different kinds of slow release fertilizers had a mean ranges 32.0 to 326.0

Table 2. Number of leaves per plant at flowering
Means with a common letter are not significantly different at 5% level by DMRT

TREATMENT	NUMBER OF LEAVES PER PLANT AT FLOWERING	
	ATOK, BENGUET	BSU-CABANAO
<u>Light Levels (fc)</u>		
Partial shade (500-1000 fc)	44.000 ^a	51.750 ^a
Full sun (<1000 fc)	54.083 ^b	33.817 ^b
<u>Slow Release Fertilizer</u>		
Multicote (17-17-17)	64.333 ^a	47.467 ^a
Osmocote (14-14-14)	49.667 ^b	43.167 ^a
Osmocote (18-6-12)	38.167 ^d	40.500 ^a
Chamba (18-6-12)	44.000 ^c	40.500 ^a
Coefficient of Variation	6.59%	11.53%

Stem Thickness at Flowering (cm)



Effect of light levels. Table 3 shows highly significant differences on the effect of light levels on the stem thickness(6 cm above the soil line) at flowering of Benguet lily plants. Results shows that plants grown under full sun has the thickest stem with a mean of 3.53 cm. compared to plants grown under partial shade with a mean of 2.78 cm. under Atok, Benguet condition. Benguet lily shows highly significant differences on the stem thickness at floweringgrown at BSU-Cabanao. Plants grown under full sun condition were thicker with a mean of 2.54 cm. compared to partial shade grown plants with a mean of 1.933 cm.

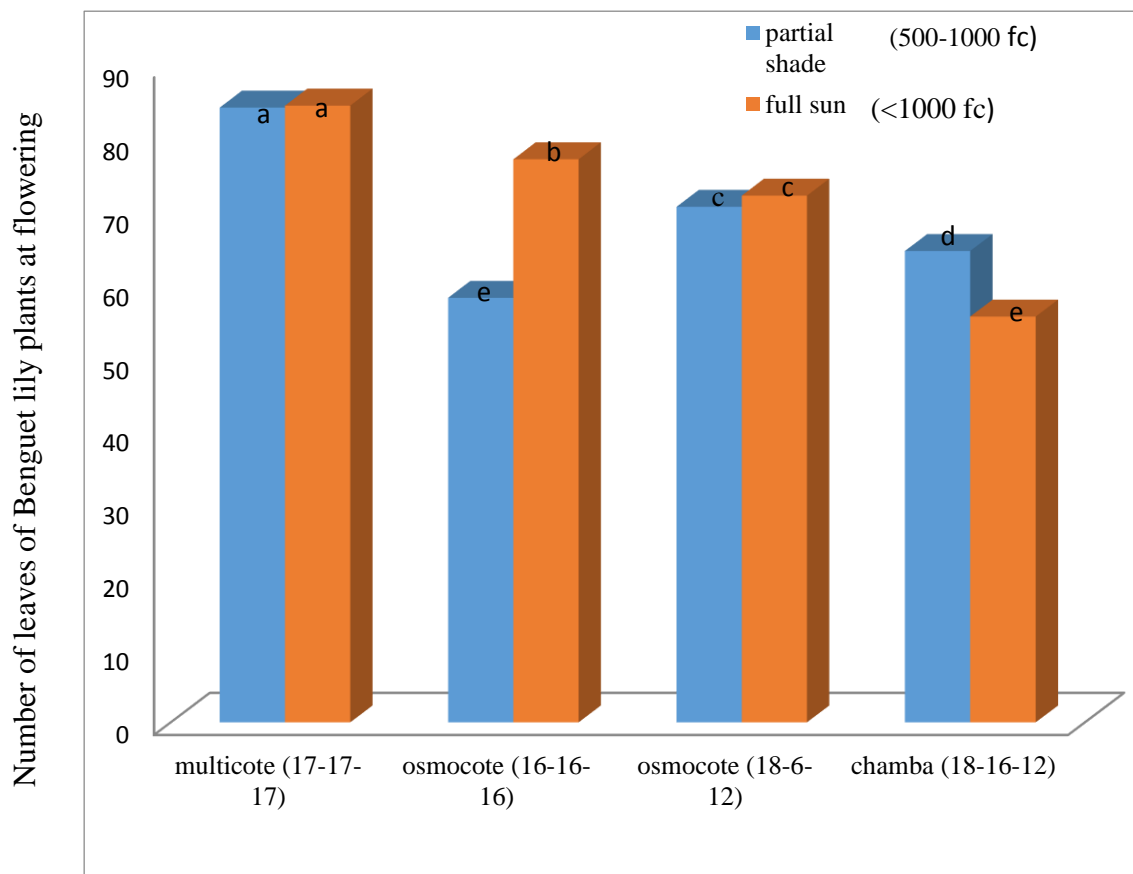


Figure 11. Number of leaves of Benguet lily plants at flowering as influenced by light levels and different slow release fertilizers grown at Atok, Benguet (mean with a common letter are not significantly different at 5% level by DMRT)



Effect of slow release fertilizer. Result shows that there were highly significant differences on the stem thickness at flowering as affected by different slow release fertilizers as showed in Table 3. Plants that were applied with Multicote were the thickest with a mean of 4.45 cm. followed by Osmocote (14-14-14) with a mean of 3.02 cm. under Atok, Benguet. Plants grown at BSU-Cabanao had the thickest stem with a mean of 2.57 cm. that were applied with Multicote followed by Osmocote (14-14-14) with a mean of 2.43 cm.

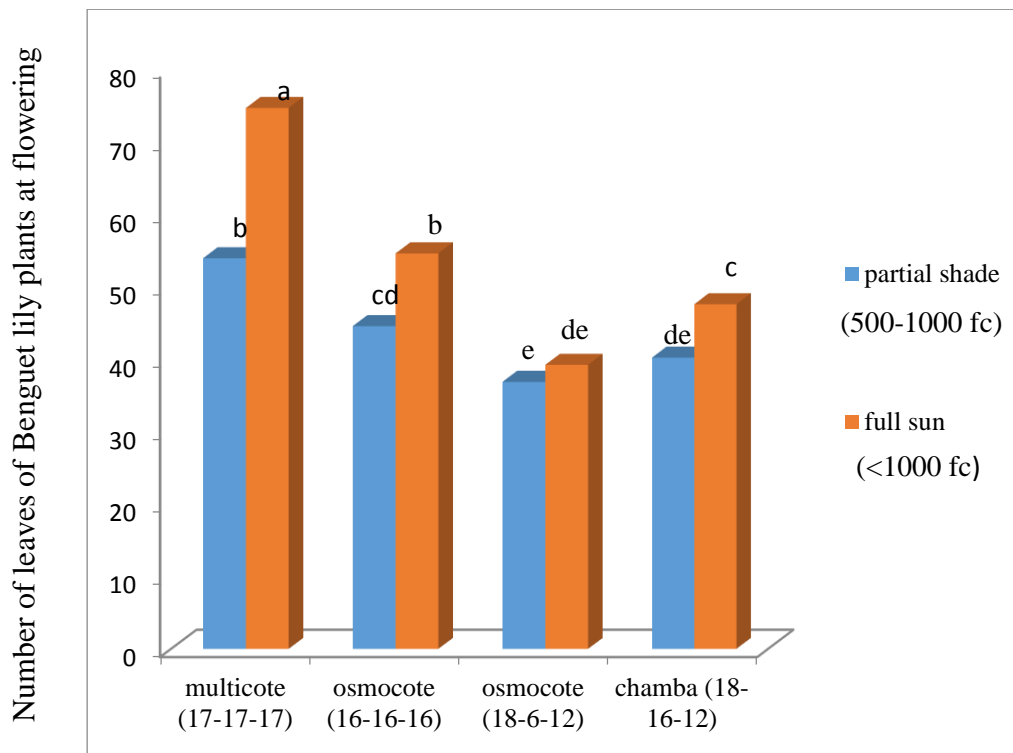


Figure 12. Number of leaves of Benguet lily plants at flowering as influenced by light levels and different slow release fertilizers grown at BSU-Cabanao (mean with a common letter are not significantly different at 5% level by DMRT)

Interaction effect. Result shows that there were highly significant effects obtained between the two light levels and different kinds of slow release fertilizers grown at Atok, Benguet as shown in (Figure 13). Benguet lilies grown full sun and were applied with Multicote had the thickest stem with a mean of 5.53 cm. These was followed by the plants grown partial shade and were applied with Multicote and grown full sun and were applied with Osmocote (14-14-14) with a mean of 3.37 cm and 3.11 cm; respectively. The plants grown partial shade and were applied with Osmocote (14-14-14 and 18-6-12) and plants grown full sun applied with Chamba (18-6-12) had a mean ranges from 2.9 cm. to 3.03 cm. Result shows that there were no significant effects obtained between the two light levels and different kinds of slow release fertilizers grown at BSU-Cabanao.

Table 3. Stem thickness (6 cm above the soil) at flowering

TREATMENT	STEM THICKNESS AT FLOWERING	
	ATOK, BENGUET	BSU-CABANAO
<u>Light Levels</u>		
Partial shade (500-1000 fc)	2.78 ^b	1.93 ^b
Full sun (<1000 fc)	3.53 ^a	2.54 ^a
<u>Slow Release Fertilizer</u>		
Multicote (17-17-17)	4.45 ^a	2.57 ^a
Osmocote (14-14-14)	3.02 ^b	2.43 ^a
Osmocote (18-6-12)	2.98 ^b	2.13 ^b
Chamba (18-6-12)	2.18 ^c	1.82 ^c
Coefficient of Variation	10.65%	8.81%

Means with a common letter are not significantly difference at 5% level by DMRT

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Days from Transplanting To Flower Bud Formation

Effects of light levels. Table 4 shows no significant differences on the plant grown under full sun and partial shade. Plants grown in full sun had a slight difference on the days from transplanting to flower bud formation with a mean of 155.75 days while the plants grown under partial shade with a mean of 153.83 days under Atok, Benguet condition. Benguet lilies grown at BSU-Cabanao shows significant differences on the number of days from transplanting to flower bud formation. Plants grown under partial shade were earlier to form flower buds with a mean of 166.75 days than the plants grown under full sun with a mean of 170.17 days.

Effect of slow release fertilizer. Result shows that there were no significant differences on the number of days from transplanting to flower bud formation as affected by slow release fertilizers under Atok, Benguet condition as shown in Table 4. However, plants that were applied with Osmocote (18-6-12) were the earliest to form flower buds while the plants that were applied with Chamba (18-6-12) were the latest to form flower bud. Plants grown at BSU-Cabanao shows highly significant differences on the number of days from transplanting to flower bud formation. Benguet lilies that were applied with Osmocote (18-6-12) were the earliest to form flower bud with a mean of 164.33 days while Chamba (18-6-12) was the latest with a mean of 171.50 days.

Interaction effect. There were no interaction effects noted between the light levels and slow release fertilizers used with regards to the number of days from transplanting to flower bud formation under Atok, Benguet condition.

Result shows that there were highly significant effects obtained between the two light levels and different kinds of slow release fertilizers grown at BSU-Cabanao as shown



in (Figure 14). The plants grown partial shade and were applied with Osmocote (18-6-12) were the earliest to form flower bud with a mean of 160.67 days. These was followed by Benguet lilies grown full sun and were applied with Multicote but were comparable to plants grown full sun and were applied with Osmocote (18-6-12) with a mean of 168.0 days. Plants that were grown full sun and were applied with Osmocote (14-14-14) and Chamba (18-6-12) and plants grown partial shade and were applied with Osmocote (14-14-14) had a mean ranges from 169.0 to 171.0 days. Lastly the plants grown partial shade and were applied with Chamba (18-6-12) was the latest to form flower bud with a mean of 172.0 days.

Table 4. Days from transplanting to flower bud formation

TREATMENT	DAYS FROM TRANSPLANTING TO FLOWER BUD FORMATION	
	ATOK, BENGUET	BSU-CABANAO
<u>Light Levels</u>		
Partial shade (500-1000 fc)	153.83	166.75 ^b
Full sun (<1000 fc)	155.75	170.17 ^a
<u>Slow Release Fertilizer</u>		
Multicote (17-17-17)	154.33	168.83 ^b
Osmocote (14-14-14)	155.17	169.17 ^{ab}
Osmocote (18-6-12)	153.67	164.33 ^c
Chamba (18-6-12)	156.00	171.50 ^a
Coefficient of Variation	6.39%	1.21%

Means with a common letter are not significantly difference at 5% level by DMRT



Days from Flower Bud Formation to Tight Bud Stage

Effect of light levels. Table 5 shows no significant differences on the plants grown under full sun and partial shade. Plants grown in full sun had slight difference on the days from flower bud formation to tight bud stage with a mean of 27.83 days while partial shade grown plants had a mean of 28.75 days under Atok, Benguet condition. Plants grown in full sun had a mean of 27.58 days while plants grown on partial shade had a mean of 27.25 days under BSU-Cabanao condition.

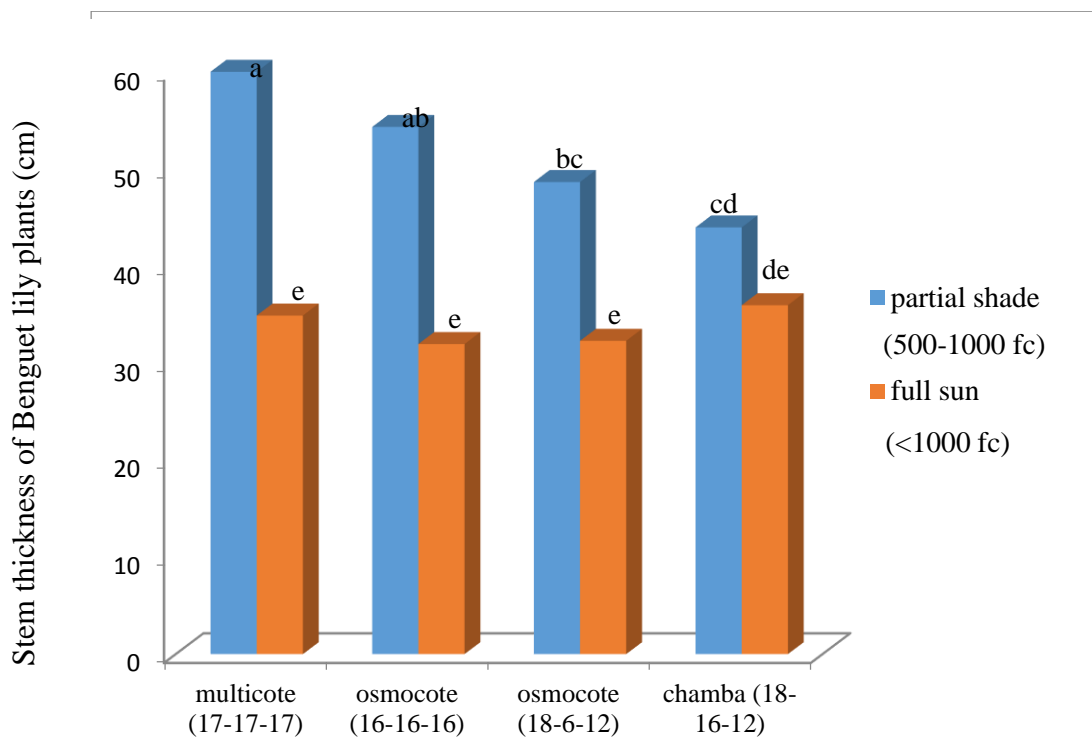


Figure 13. Stem thickness of Benguet lily plants (6 cm. above the soil line) at flowering (cm) as influenced by light levels and different slow release fertilizers grown at Atok, Benguet (mean with a common letter are not significantly different at 5% level by DMRT)

Effect of slow release fertilizer. Likewise Table 5 shows that there were no significant effects on the different kinds of slow release fertilizers with regards to the number of days from flower bud formation to tight bud stage. Means ranges from 28.00-28.67 days under Atok, Benguet condition while means ranges from 27.00- 28.00 days grown at BSU-Cabanao.

Interaction effect. There were no interaction effect noted between the light levels and different kinds of slow release fertilizers with regards to the number of days from flower bud formation to tight bud stage.

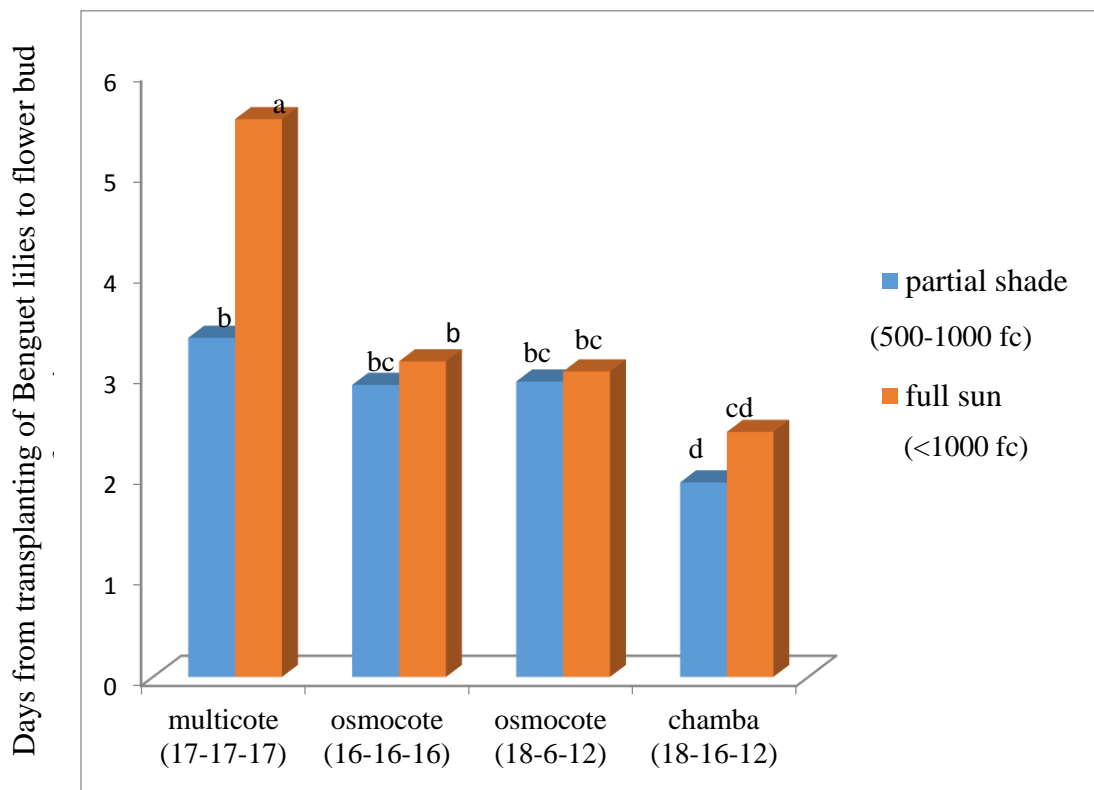


Figure 14. Days from transplanting of Benguet lilies to flower bud formation as influenced by light levels and different slow release fertilizers grown On-station (mean with a common letter are not significantly different at 5% level by DMRT)



Vaseliflife of Cutflowers

Effect of light levels. Table 6 shows that there were no significant effects of light levels on the vaseliflife of cutflowers on both locations. However, plants grown under full sun had longer vaseliflife with a mean of 5.17 days.

Effect of slow release fertilizers. Table 6 shows no significant differences of different kinds of slow release fertilizers on the vaseliflife of cutflowers on the two locations. Vaseliflife ranges from 4.67 to 5.17 under Atok, Benguet condition while 4.83 to 5.17 days under BSU-Cabanao condition.

Interaction effect. There were no interaction effects noted between the light levels and different kinds of slow release fertilizers used with regards to the vaseliflife of cutflowers on both locations.

Stem Length of Cutflowers at Harvest

Effect of light levels. The effect of the light levels with regards to the cutflower stem length as shown in Table 8 that there were no significant differences on the plant grown at Atok while the plants grown at BSU-Cabanao shows highly significant differences. Plants grown under full sun had a mean of 57.51 cm. while 39.01 cm. on the partial shade; respectively.

Effect of slow release fertilizers. It was shown on Table 7 that there were highly significant differences on the effect of different kinds of slow release fertilizers in regards to the stem length of cutflowers at harvest on both two locations. Application of Multicote produced significantly the longest cutflower stem which had a mean of 67.58 cm. followed by 55.32 cm. Short stem was measured from the Chamba (18-6-12) treated plants with a mean of 50.78 cm. grown at Atok, Benguet. Benguet lily plants grown at



Table 5. Days from flower bud formation to tight bud stage

TREATMENT	DAYS FROM FLOWER BUD FORMATION TO TIGHT BUD	
	ATOK, BENGUET	BSU-CABANAO
<u>Light Levels</u>		
Partial shade (500-1000 fc)	28.75	27.25
Full sun (<1000 fc)	27.83	27.88
<u>Slow Release Fertilizer</u>		
Multicote (17-17-17)	28.67	28.00
Osmocote (14-14-14)	28.50	27.00
Osmocote (18-6-12)	28.00	27.50
Chamba (18-6-12)	28.00	27.17
Coefficient of Variation	4.04%	3.85%

Means with a common letter are not significantly difference at 5% level by DMRT

BSU-Cabanaowas the tallest with a mean of 54.60 cm. and were applied with Multicote followed by 52.65 cm. while the plants with short stem were applied with Chamba (18-6-12) with a mean of 41.67 cm.

Interaction effect. Result shows that there were highly significant effects obtained between the two light levels and different kinds of slow release fertilizers grown at Atok, Benguet as shown in (Figure 15). Plants grown under full sun and partial shade that were applied with Multicote had the longest stem with a mean of 67.67 cm. and 67.5 cm. but were comparable to Benguet lily plants grown full sun and were applied with Osmocote (14-14-14) and with a mean of 63.23 cm. These was followed by plants grown full sun and



partial shade and were applied with Osmocote (18-6-12) with a mean of 59.33 cm. and 57.60 cm. Benguet lily plants grown partial shade that were applied with Chamba (18-6-12) had a mean of 54.0 cm. Plants that had the shortest stem were the plants grown under partial shade that were applied with Osmocote (14-14-14) and full sun applied with Chamba (18-6-12) with a mean of 57.60 and 47.57 cm; respectively. Result shows that there were highly significant effects obtained between the two light levels and different kinds of slow release fertilizers grown at BSU-Cabanao as shown in (Figure 16). Benguet lilies grown full sun and were applied with Multicote, Osmocote (14-14-14), and Chamba (18-6-12) had the longest stem with a mean ranges from 56.4 cm to 59.0 cm. These were followed by plants grown full sun and were applied with Osmocote (18-6-12) with a mean of 56.03 cm. Plants with the shortest stem were the plants grown partial shade and were applied with Osmocote (18-6-12) and Chamba (18-6-12) with a mean of 32.20 cm. and 26.93 cm.; respectively.

Occurrence of Insect Pest and Diseases

There were no diseases observed throughout the cropping period but insect pests greatly affected the Benguet lily. Aphids affected greatly the growth of Benguet lily plants.



Table 6. Vase life of cutflowers (days)

TREATMENT	VASE LIFE OF CUTFLOWERS (DAYS)	
	ATOK, BENGUET	BSU-CABANAO
<u>Light Levels (fc)</u>		
Partial shade (500-1000 fc)	4.92	4.83
Full sun (<1000 fc)	5.17	5.17
<u>Slow Release Fertilizer</u>		
Multicote (17-17-17)	5.17	5.00
Osmocote (14-14-14)	5.17	5.17
Osmocote (18-6-12)	5.17	4.83
Chamba (18-6-12)	4.67	5.00
Coefficient of Variation	10.03%	11.02%

Means with a common letter are not significantly difference at 5% level by DMRT

Initial Soil Analysis

The initial soil analysis showed in Table 7 had a pH of 6 with organic matter of 19.87%. The nitrogen content was 1.68% with a Phosphorous content of 11.94 ppm and Potassium content of 108.57 ppm

Table 7. Initial soil analysis

pH	OM(%)	N (%)	P (ppm)	K (ppm)
6	19.87	1.68	11.94	108.57



Table 8. Stem length of cutflowers at harvest (cm)

TREATMENT	STEM LENGTH OF CUTFLOWERS AT HARVEST (cm)	
	ATOK, BENGUET	BSU-CABANAO
<u>Light Levels</u>		
Partial shade (500-1000 fc)	56.63	39.01
Full sun (<1000 fc)	59.45	57.51
<u>Slow Release Fertilizer</u>		
Multicote (17-17-17)	67.58 ^a	54.60 ^a
Osmocote (14-14-14)	55.32 ^b	52.65 ^a
Osmocote (18-6-12)	58.47 ^b	44.12 ^b
Chamba (18-6-12)	50.78 ^c	41.67 ^b
Coefficient of Variation	6.03%	6.98%

Means with a common letter are not significantly difference at 5% level by DMRT

Meteorological Data

BSU-Cabanao. Meteorological data as shown in Table 9 was obtained at the BSU PGASA Balili, La Trinidad, Benguet from September 2012 to April 2013. Relative humidity decreased from October to February and had increased from March to April. The maximum and minimum temperatures were the highest during the month of April while the rest of the growing season had low temperatures during the month of October to February. Rainfall had the highest during the month of September while the month of February had the longest sunshine duration.



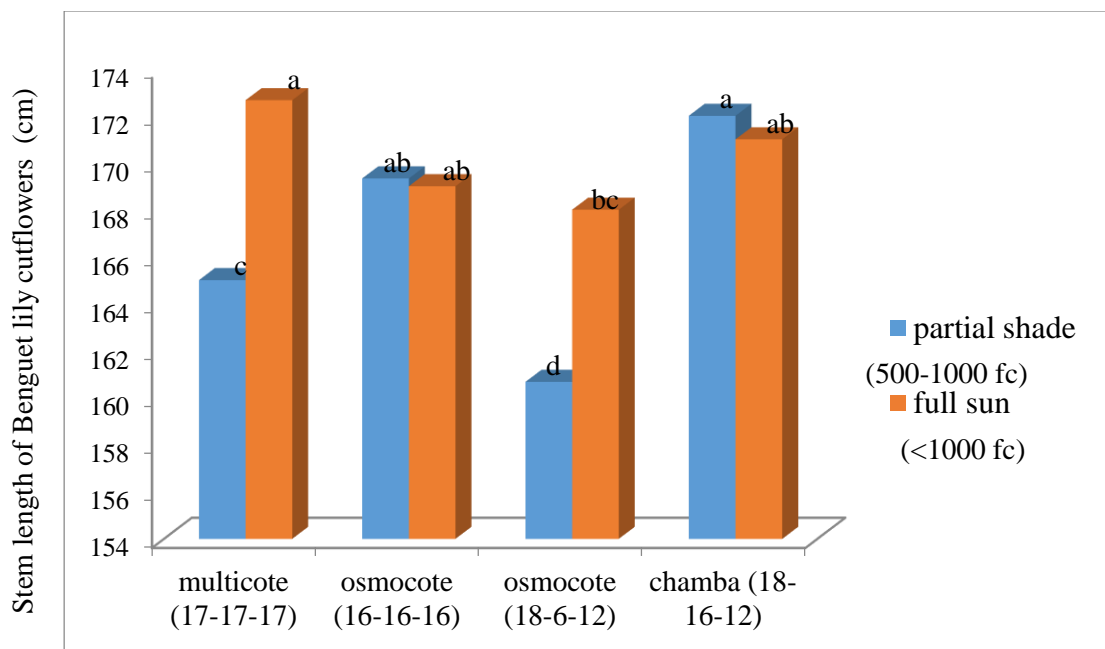


Figure 15. Stem length of Benguet lily plants cutflowers at harvest (cm) as influenced by light levels and different slow release fertilizers grown at Atok, Benguet (mean with a common letter are not significantly different at 5% level by DMRT)

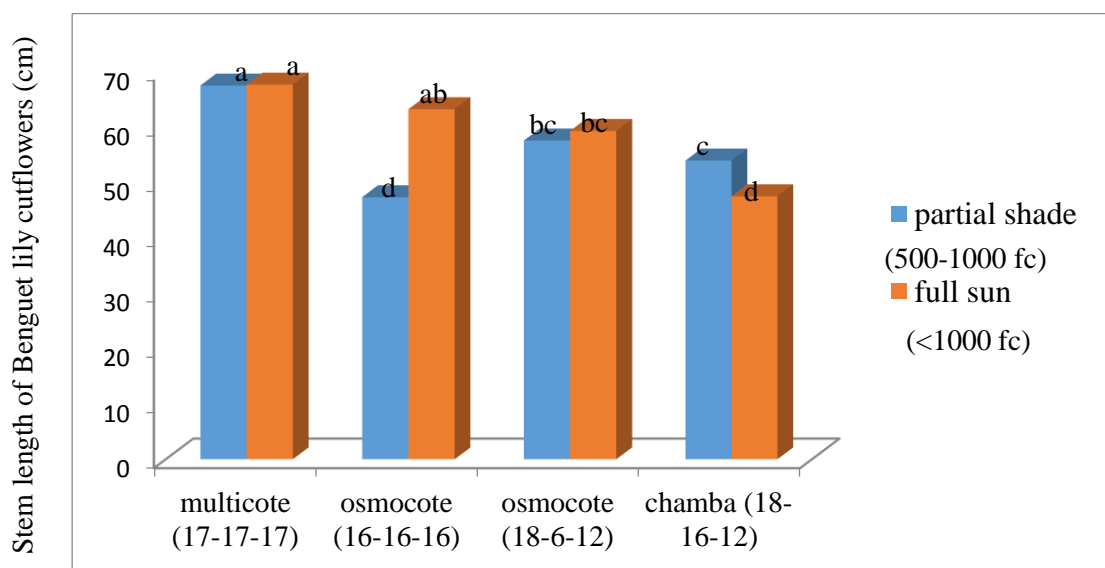


Figure 16. Stem length of Benguet lily cutflowers at harvest (cm) as influenced by light levels and different slow release fertilizers grown On-station (mean with a common letter are not significantly different at 5% level by DMRT)



Atok, Benguet. The meteorological data on September 2012 to April 2013 as shown in Table 10 shows the maximum and minimum temperatures were the highest during the month of April. Relative humidity decreases from the month of February to April. January had the shortest sunshine duration while the month of October had the highest rainfall.

Table 9. Meteorological data collected in BSU-PAGASA

MONTHS	TEMPERATURE (°C)		RELATIVE HUMIDITY (%)	RAINFALL (mm)	SUNSHINE DURATION (hours)
	MAXIMUM	MINIMUM			
September	23.98	17.45	88.33	00155.96	4.263
October	23.7	15.1	82.13	00021	5.685
November	24.2	15.2	80.53	00141	6.331
December	24.2	14.5	80.61	00001	6.295
January	23.7	12.3	80.45	00005	6.0
February	24.3	13.7	80.11	00001	6.3283
March	25.5	16.9	83.16	00025	5.0766
April	26.3	16.32	83.25	0046.5	6.2083



Table 10. Meteorological data collected in Atok, Benguet

MONTHS	<u>TEMPERATURE</u> (°C)		<u>RELATIVE</u>	<u>RAINFALL</u>	<u>SUNSHINE</u>
	MAXIMUM	MINIMUM	<u>HUMIDITY</u>	(mm)	<u>DURATION</u>
			(%)		(hours)
September	24.32	14.92	95.45	00109.2	4.9033
October	22.78	11.92	96.03	00162.7	3.8783
November	23.84	10.76	80.53	00034.3	4.2516
December	24.6	12.9	97.64	00053.8	3.4966
January	23.9	15.5	97.74	00037	2.2466
February	25.8	13.8	92.62	00011.8	3.1466
March	26.6	14.6	90.62	00046.6	3.87
April	26.3	12.2	83.56	00054.6	2.5966



SUMMARY, CONCLUSION AND RECOMMENDATION

Summary

The study was conducted at the Ornamental Horticultural Research area, Benguet State University, La Trinidad and Km. 24, Caliking, Atok, from September to April 2013 to determine the response of Benguet Lily plants to different light levels and different kinds of slow release fertilizer application.

Results revealed that there were highly significantly differences on the final height and number of leaves at flowering, stem length of cutflower at harvest, and stem thickness as affected by light levels and slow release fertilizer. Benguet lily grown under full sun condition had taller plants with more number of leaves, and thicker stems. Application of Multicote (17-17-17) promoted vegetative growth and producing the tallest plants. However, there were no significant differences obtained on the days from transplanting to flower to flower bud formation, days from flower bud formation to tight bud stage and vase life of cutflowers in all treatments. Application of Multicote grown under full sun promoted vegetative growth, reproductive growth and the cutflower quality on the two locations. The Benguet Lily plants grown at Atok, Benguet had improved vegetative growth with taller plants, ten additional leaves, thicker stems, earlier flower bud formation, and longer stem length.

The initial soil analysis before planting of the bulbs showed that the soil had a pH of 6 which is slightly acidic. The soil contains high amount of Nitrogen, medium amount of Phosphorous and it had a sufficient amount of Potassium.



Conclusion

It is therefore concluded that the application of slow release fertilizer Multicote at 6 g/ 15 cm PEP pot grown under full sun to Benguet lily plants significantly improved the vegetative growth producing taller plants with more number of leaves and thickest stem, reproductive growth, producing plants with the earliest to form flower bud and better cutflower quality producing longer stems compared to the other treatments.

Recommendation

Based on the findings of the study, application of 6 g/ 15 cm PEP pot of Multicote grown under full sun at Atok, Benguet is the best treatment for Benguet lily. Multicote is therefore recommended as a slow release fertilizer for Benguet lily and full sun condition is the best light levels to produce plants taller plants with longer and thicker stems and more leaves grown at Atok, Benguet.



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