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**GROWTH AND YIELD PERFORMANCE OF THREE SELECTED  
VARIETIES OF GARDEN PEA (Pisum sativum L.)  
TREATED WITH COCOGRO USING  
DIFFERENT POPULATION  
DENSITIES**

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VARIETIES OF GARDEN PEA (*Pisum sativum* L.) TREATED  
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## **ABSTRACT**

**DURANTE, WENCESLAO SAYAS**, Cavite State University, Indang, Cavite. March 2000. Growth and Yield Performance of Three Selected Varieties of Garden Pea (*Pisum sativum* L.) Treated with Cocogro Using Different Population Densities. Adviser : Dr. Simeon S. Crucido.

A field experiment was conducted to evaluate the growth and yield performance of selected varieties of garden pea such as CDG, CGP18A, and CGP14 treated with cocogro at different population densities. Population densities include 333,333 plants ha<sup>-1</sup>, 250,000 plants ha<sup>-1</sup>, and 166,667 plants ha<sup>-1</sup>.

Growth data were gathered by three sample harvests at 15, 30, and 45 days after emergence. Other plant characters were estimated based from the raw data gathered.

A computer program on analysis of variance was used to determine the effects of the treatments or their combination on garden pea.

Variety, cocogro treatment and increasing number of population density from 166,667 plants ha<sup>-1</sup> to 250,000 plants ha<sup>-1</sup> and 333,333 plants ha<sup>-1</sup> significantly increased the crop growth rate (CGR) of garden pea at 15 DAE. At 30 and 45 DAE, the growth rate increased significantly due to the interaction effect of variety and population density.

Leaf area index (LAI) at 15 and 30 DAE increased significantly as affected by the interactions of variety and population density, cocogro treatment and variety, and cocogro treatment and population density. At 45 DAE, LAI increased significantly as a result of the interactions of variety, cocogro treatment, and population density.

Early flowering of garden pea was noted due to cocogro treatment. Likewise, plant height remarkably increased when treated with cocogro at higher population density.

The total dry matter production was increased significantly due to the interaction effect of variety and population density. All varieties showed an increasing production trend as the population density was increased from 166,667 plants ha<sup>-1</sup> to 333,333 plants ha<sup>-1</sup>.

All varieties used showed an increasing trend in the production of total number of pods m<sup>-2</sup> as well as the total green pod yield with higher population density. Likewise, the total number of pods m<sup>-2</sup> and total green pod yield also increased when treated with cocogro. Varieties CGP18A and CGP14 produced the highest number of pods as well as the total green pod yield over CDG.

## **TABLE OF CONTENTS**

	<b>PAGE</b>
<b>BIOGRAPHICAL SKETCH</b>	<b>iii</b>
<b>ACKNOWLEDGMENT</b>	<b>v</b>
<b>LIST OF TABLES</b>	<b>xii</b>
<b>LIST OF FIGURES</b>	<b>xiii</b>
<b>LIST OF APPENDIX TABLES</b>	<b>xv</b>
<b>LIST OF APPENDIX FIGURES</b>	<b>xvii</b>
<b>ABSTRACT</b>	<b>xviii</b>
<b>INTRODUCTION</b>	<b>1</b>
<b>Statement of the Problem</b>	<b>2</b>
<b>Objectives of the Study</b>	<b>3</b>
<b>Significance of the Study</b>	<b>4</b>
<b>REVIEW OF RELATED LITERATURE</b>	<b>5</b>
<b>Use of Variety in Legume Production</b>	<b>5</b>
<b>Effect of Population Density on Growth and Yield</b>	<b>6</b>
<b>Use of Cocogro as a Growth Enhancer</b>	<b>8</b>
<b>MATERIALS AND METHODS</b>	<b>10</b>
<b>Time and Place of the Study</b>	<b>10</b>
<b>Procurement of Garden Pea Seed Varieties</b>	<b>10</b>
<b>Procurement of Cocogro</b>	<b>11</b>

	<b>PAGE</b>
<b>Experimental Design and Treatment</b>	<b>11</b>
<b>Establishment and Management</b>	<b>13</b>
<b>Land Preparation</b>	<b>13</b>
<b>Fertilizer and Fertilizer Application</b>	<b>14</b>
<b>Treating Garden Pea Seeds with Cocogro</b>	<b>14</b>
<b>Planting and Thinning</b>	<b>14</b>
<b>Trellising</b>	<b>15</b>
<b>Irrigation</b>	<b>15</b>
<b>Weeding and Cultivation</b>	<b>15</b>
<b>Insect Pest and Disease Control</b>	<b>16</b>
<b>Harvesting</b>	<b>16</b>
<b>Data Gathered</b>	<b>16</b>
<b>Climatological Data</b>	<b>16</b>
<b>Plant Data</b>	<b>17</b>
<b>Crop Growth Rate (CGR)</b>	<b>17</b>
<b>Leaf Area Index (LAI)</b>	<b>17</b>
<b>Plant Height</b>	<b>18</b>
<b>Days to Flowering</b>	<b>18</b>
<b>Total Dry Matter Production (g m<sup>-2</sup>)</b>	<b>18</b>

	<b>PAGE</b>
Total Number of Green Pods per m <sup>-2</sup>	18
Total Green Pod Yield (g m <sup>-2</sup> )	18
Statistical Analysis	19
<b>RESULTS AND DISCUSSION</b>	20
Physical and Chemical Properties of the Experimental Field	20
Climatological Data	20
General Observation	24
Germination and Seedling Emergence	24
Incidence of Pest and Diseases	24
Crop Growth Rate at 15, 30, and 45 DAE	24
Relationship of Crop Growth Rate with other Plant Characters at 15, 30 and 45 DAE	32
Leaf Area Index at 15, 30, and 45 DAE	33
Relationship of Leaf Area Index with other Plant Characters at 15, 30, and 45 DAE	43
Days to Flowering	43
Plant Height	44
Total Dry Matter Production (g m <sup>-2</sup> )	50
Total Number of Green Pods m <sup>-2</sup>	52
Relationship of Total Number of Green Pods with other Plant Characters Studied	53

	<b>PAGE</b>
<b>Total Green Pod Yield (g m<sup>-2</sup>)</b>	<b>53</b>
<b>Relationship of Total Green Pod Yield with other Plant Characters Studied</b>	<b>58</b>
<b>SUMMARY, CONCLUSION AND RECOMMENDATION</b>	<b>59</b>
<b>Summary</b>	<b>59</b>
<b>Conclusion</b>	<b>61</b>
<b>Recommendation</b>	<b>61</b>
<b>LITERATURE CITED</b>	<b>62</b>
<b>APPENDICES</b>	<b>66</b>



## **LIST OF TABLE**

<b>TABLE NO.</b>		<b>PAGE</b>
1	Leaf area index (LAI) of garden pea as affected by the the interactions of variety, population density, and cocogro treatment	42

## **LIST OF FIGURES**

<b>FIGURE</b>		<b>PAGE</b>
1	Experimental lay-out	12
2	Average weekly air temperature in the experimental area from May 22 to July 23, 1999	21
3	Average weekly rainfall in the experimental area from May 22 to July 23, 1999	22
4	Average weekly relative humidity of the experimental area from May 22 to July 23, 1999	23
5	Crop growth rate of garden pea at 15 DAE as affected by population density	26
6	Crop growth rate of garden pea at 15 DAE as affected by variety	27
7	Crop growth rate of garden pea at 15 DAE as affected by cocogro treatment	28
8	Crop growth rate of garden pea as affected by the interactions of variety and population density at 30 DAE	30
9	Crop growth rate of garden pea as affected by the interactions of variety and population density at 45 DAE	31
10	Leaf area index of garden pea as affected by the interactions of variety and cocogro treatment at 15 DAE	34
11	Leaf area index of garden pea as affected by the interactions of population density and cocogro treatment at 15 DAE	35
12	Leaf area index of garden pea as affected by the interactions of variety and population density treatment at 15 DAE	37

		<b>PAGE</b>
13	Leaf area index of garden pea as affected by the interactions of variety and cocogro treatment at 30 DAE	38
14	Leaf area index of garden pea as affected by the interactions of population density and cocogro treatment at 30DAE	39
15	Leaf area index of garden pea as affected by the interactions of variety and population density at 30 DAE	41
16	Mean days to flowering as affected by cocogro treatment	45
17	Height of garden pea as affected by variety	46
18	Height of garden pea as affected by population density	48
19	Height of garden pea as affected by cocogro treatment	49
20	Total dry matter production of garden pea as affected by the interactions of variety and population density	51
21	Total number of green pods as affected by the interactions of variety and population density	54
22	Total green pod yield as affected cocogro treatment	56
23	Total green pod yield of garden pea as affected by the interactions of variety and population density	57

## **LIST OF APPENDIX TABLES**

<b>TABLE NO.</b>		<b>PAGE</b>
1	Analysis of variance on crop growth rate of garden pea at 15 DAE as affected by variety, different population densities and cocogro treatment	67
2	Analysis of variance on crop growth rate of garden pea at 30 DAE as affected by variety, different population densities and cocogro treatment	68
3	Analysis of variance on crop growth rate of garden pea at 45 DAE as affected by variety, different population densities and cocogro treatment	69
4	Analysis of variance on leaf area index of garden pea at 15 DAE as affected by variety, different population densities and cocogro treatment	70
5	Analysis of variance on leaf area index of garden pea at 30 DAE as affected by variety, different population densities and cocogro treatment	71
6	Analysis of variance on leaf area index of garden pea at 45 DAE as affected by variety, different population densities and cocogro treatment	72
7	Analysis of variance on mean days to flowering of garden pea as affected by variety, different population densities and cocogro treatment	73
8	Analysis of variance on height of garden pea as affected by variety, different population densities and cocogro treatment	74
9	Analysis of variance on total dry matter production of garden pea as affected by variety, different population densities and cocogro treatment	75

		<b>PAGE</b>
10	Analysis of variance on total number of green pods of garden pea as affected by variety, different population densities and cocogro treatment	76
11	Analysis of variance on the total green pod yield of garden pea as affected by variety, different population densities and cocogro treatment	77
12	Correlation coefficient of the characters studied for the three varieties of garden pea planted at different population densities and treated with cocogro	78
13	Climatological data	79
14	Result of the soil analysis from the experimental area	80

## LIST OF APPENDIX FIGURES

APPENDIX FIGURE NUMBER		PAGE
1	The experimental area	81
2	Representative plants of Var. CDG planted at population density of 250,000 plts ha <sup>-1</sup> treated with cocogro	82
3	Representative plants of Var. CGP18A planted at population density of 333,333 plts ha <sup>-1</sup> treated with cocogro	83
4	Representative plants of untreated CGP18A variety planted at population density of 333,333 plts ha <sup>-1</sup>	84
5	Representative plants of Var. CGP14 planted at population density of 333,333 plts ha <sup>-1</sup> treated with cocogro	85
6	Representative plants of Var. CGP14 planted at population density of 250,000 plts ha <sup>-1</sup> treated with cocogro	86
7	Representative plants of untreated CGP14 variety planted at population density of 250,000 plts ha <sup>-1</sup>	87
8	Sample green pods of Var. CDG planted at population density of 250,000 plts ha <sup>-1</sup> treated with cocogro	88
9	Sample green pods of untreated CGP18A variety planted at population density of 166,667 plts ha <sup>-1</sup>	89
10	Sample green pods of Var. CGP14 planted at population density of 166,667 plts ha <sup>-1</sup> treated with cocogro	90



## **INTRODUCTION**

Garden pea is known botanically as *Pisum sativum* L. under the family Leguminosae. It is an annual climbing or bushy herbaceous plant which exhibits a wide variation in forms and habits. It is grown worldwide for its edible pods and seeds. In the Philippines its production is carried out by small farmers; hence, its present supply remains limited despite the greater demand for green pods. The availability of this crop in the local market is low as the bulk of production is concentrated mainly in places with higher altitude particularly in the province of Benguet and Mountain province where the climate is believed to be more suitable than other parts of the country (Garden Pea Technoguide, 1982).

Research and development efforts are mainly geared toward the production and selection of garden pea varieties in areas where they are grown (Tabinga and Gagni, 1982). Garden pea is reported to grow well and produce higher yields in areas with cooler temperature. In an area of the same climatic condition, different varieties of crop can have varying growth and yield responses. Even if the variety is able to perform well under certain location, it is important to establish a population density that can give significantly higher yields. Willey and Heath as cited by Crucido (1993) emphasized the need to evaluate the relationship between population density and crop yield quantitatively and establish optimum population and maximum yield.

Aside from population density, the use of phytohormone also affect plant growth. Hence, the use of cocogro was tested. Cocogro is a cocktail of plant growth