IDENTIFICATION OF BEST CULTIVAR OF BLACK NIGHTSHADE

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INTRODUCTION

• There is need to increase annual productivity of indigenous vegetables to meet the increasing demand in the country.

• Low yields, lateness to maturity and too much seeding are the major constraints to production.

• These traits can be genetically enhanced by selection to produce high yields and effect earliness in maturity.
INTRO CONT'D’…

• The focus of the this study was *Solanum nigrum* (black nightshade) locally referred to as *managu* or *mnnavu*, an indigenous type.

• The vegetable is an annual crop that grows up to 60cm tall and is often found growing as a weed on fertile soils.

• It is propagated by seed.
OBJECTIVES

General:
• To identify the most preferable *S. nigrum* variety/landrace in terms of earliness in maturity, low seeding rate and high yielding.

Specific:
• To determine the high yielding *S. nigrum* variety.
• To identify an early maturing *S. nigrum* variety.
• To identify the least seeding type of *S. nigrum*.
• To determine the most preferred variety of *S.nigrum*. 
A study carried out on effects of propagation method on yield concluded that seed propagation is more preferable compared to cuttings (Mwafusi, 1992).

Study on effect of plant density on yield, less dense crops performed better than the one that were densely populated (Onyango, 1993).

Research on effects of frequency of harvesting on yield and continuous (daily) harvesting gave a lower yield than harvesting on a fortnight basis (Chweya, 1997).
METHODOLOGY

• Materials: Black night shade seeds (2 cultivars and 2 landraces) and Fertilizer (DAP, CAN, Organic manure).

• Modified mass selection with progeny testing was used.

• Experiment was carried out at the Kabete Field Station of the faculty of Agriculture, University of Nairobi.

• Tools: wooden pegs, sisal rope, tape measure and meter rule.

• Experimental layout: Evaluation was done using complete randomized design.
COLLECTED DATA

• Maturity rate (days to flowering from planting).

• Plant vigor (height in cm after 7 days from 6th week of sowing).

• Individual preference (organoleptic testing).
RESULTS AND DISCUSSIONS

ORGANOLEPTIC EVALUATION OF MANAGU

Sensory analysis was carried out using 20 individuals. A 7-point hedonic scale was used.

<table>
<thead>
<tr>
<th>Degree of preference</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like very much</td>
<td>1</td>
</tr>
<tr>
<td>Like moderately</td>
<td>2</td>
</tr>
<tr>
<td>Like slightly</td>
<td>3</td>
</tr>
<tr>
<td>Neither like or dislike</td>
<td>4</td>
</tr>
<tr>
<td>Dislike slightly</td>
<td>5</td>
</tr>
<tr>
<td>Dislike moderately</td>
<td>6</td>
</tr>
<tr>
<td>Dislike very much</td>
<td>7</td>
</tr>
</tbody>
</table>
This was used to score the sensory attributes and acceptance of the product in terms of: taste, bitterness, visual appearance and texture.

**RESULTS**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Taste</th>
<th>Bitterness</th>
<th>Appearance</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variety 1</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Variety 2</td>
<td>3</td>
<td>2</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Variety 3</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Variety 4</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>
**BITTERNESS SCORE**

- The score was done on a 1 to 10 scale
- 1=less sweet, 5=bitter, 10=very bitter.

**RESULTS**

<table>
<thead>
<tr>
<th>Variety</th>
<th>score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variety1</td>
<td>9</td>
</tr>
<tr>
<td>Variety2</td>
<td>4</td>
</tr>
<tr>
<td>Variety3</td>
<td>3</td>
</tr>
<tr>
<td>Variety4</td>
<td>6</td>
</tr>
</tbody>
</table>
MEAN PLANT HEIGHTS

![Graph showing mean plant heights over time for different varieties.](image-url)
DISCUSSIONS

• Variety 2 was most preferred in terms of taste, bitterness and texture. It is less bitter with good taste when cooked.

• Yield is proportional to height hence variety 2 had the highest yields. Therefore, good for commercial production and home gardening.

• Variety 1 flowers earlier and seeds much compared to other varieties. Variety 2 and 3 were the least seeding types
CONCLUSION

In conclusion, variety 2 is the best cultivar however it needs to be improved in terms of appearance.
REFERENCES


I would like to acknowledge my supervisor Dr. Njoroge .k for his guidance in my entire project as well as his advice.
THANK YOU