Collection and Characterization of Indonesian Indigenous Vegetables: Beluntas, Kenikir, Pegagan, Sambung Nyawa, and Terubuk

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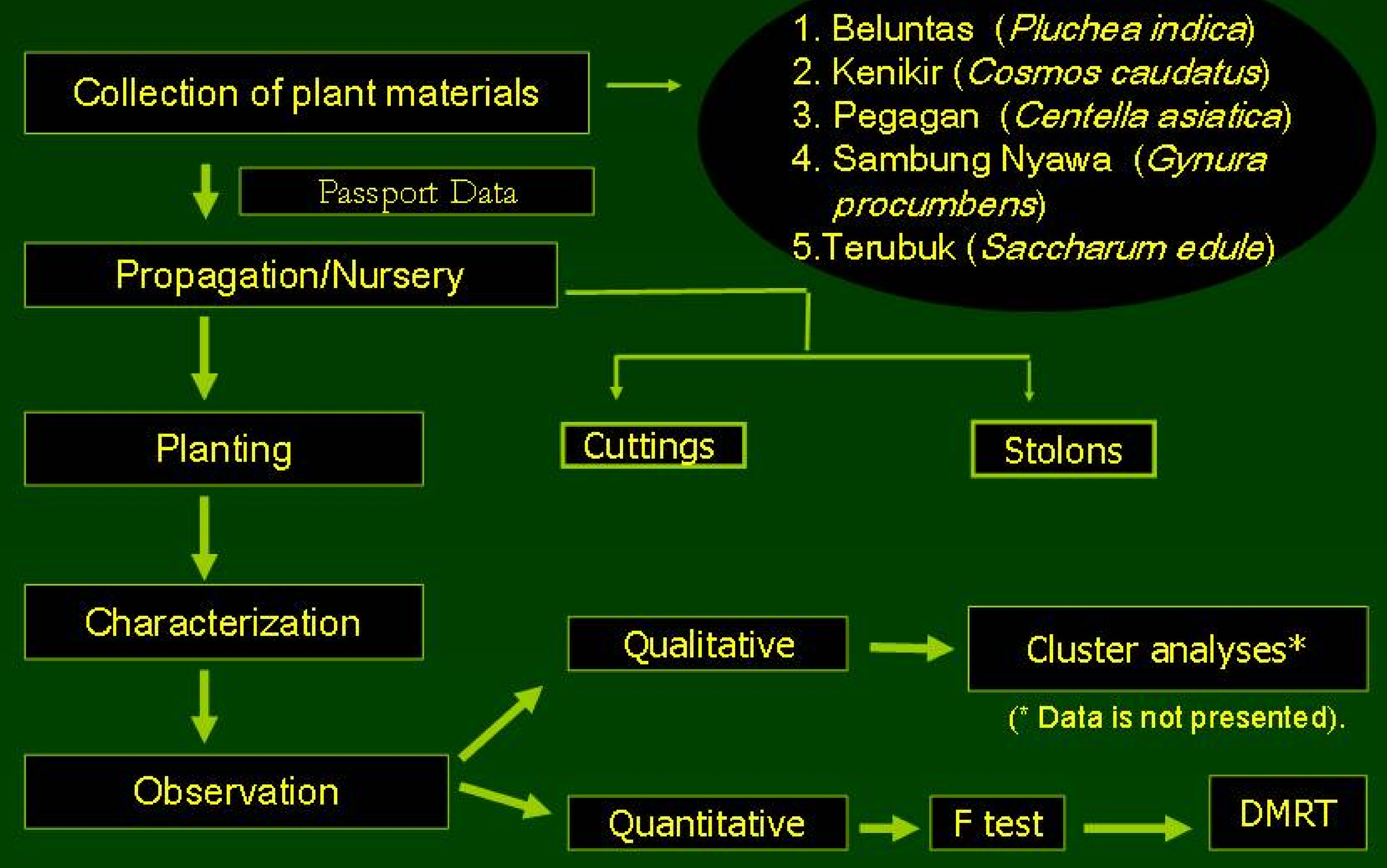
INTRODUCTION

Indonesia is rich in plant biodiversity. It includes indigenous vegetable species which are consumed by local people. Indigenous vegetables might be used to increase vegetable consumption as sources of vitamins, minerals, and fibers. Vegetables such as beluntas (*Pluchea indica*), kenikir (*Cosmos caudatus*), pegagan (*Centella asiatica*), sambung nyawa (*Gynura procumbens*), and terubuk (*Saccharum edule*) are used by local people in Bogor and Pandeglang. Beluntas, kenikir, pegagan, and sambung nyawa are originally used for their medicinal properties such as for wound healer. With their specific aroma, these plants also eaten as raw vegetables. Pegagan also known as asiatic or indian pennywort. Beluntas and sambung nyawa can reach 1-1.5 meter in height. However, they are maintained short when pruned regularly for harvest, so they also planted as hedge in the garden. Kenikir is annual herb of 0.5-3.0 m in height, while terubuk is 1-4 m in height with the appearance almost similar to sugar cane (*Saccharum officinarum*). The edible part in terubuk is its flower which resemblance to fish egg. The flower steamed and eaten with peanut sauce. The objective of the experiment was to collect and characterize those indigenous vegetables.

MATERIALS AND METHODS



RESULTS

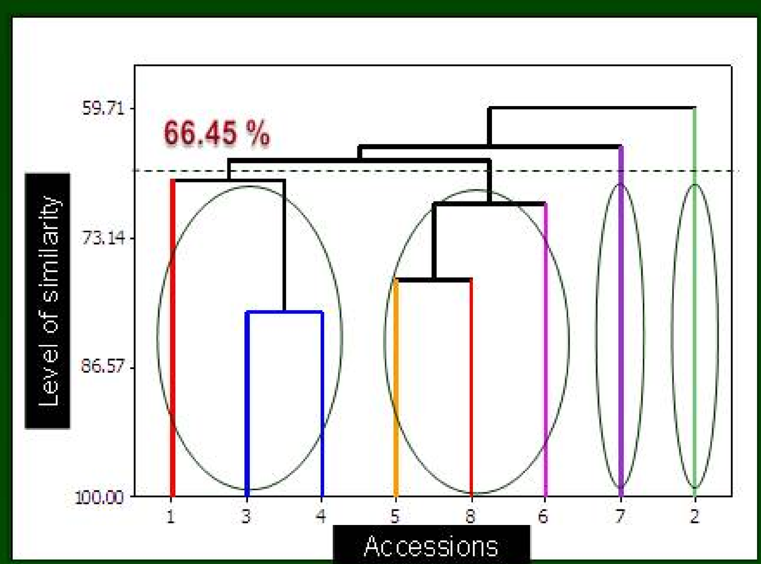
Table 1. Observation of characters in 8 Beluntas accessions

Characters	F value	CV %)
Δ of plant height at 8 WAP	7.58**	26.19
Δ of stem diameter at 8 WAP	0.74ns	10.02
Leaf length	0.86ns	6.97
Leaf width	0.33 ns	15.97
Petiole length	0.89 ns	18.79
Yield/ plant	1.09ns	28.09

Note: ** Highly significant; ns: not significant
WAP: week after planting

Table 2. Yield of Beluntas

Accessions	Yield/plant (g)
Nanggung	3.10
Parung	3.08
Taman Sari	3.92
Cibinong	2.90
Pandeglang	4.75
Cadasari	4.01
Mandalawangi	3.50
Cimanuk	3.53



Beluntas

Table 3. Observation of characters in 8 Kenikir accessions

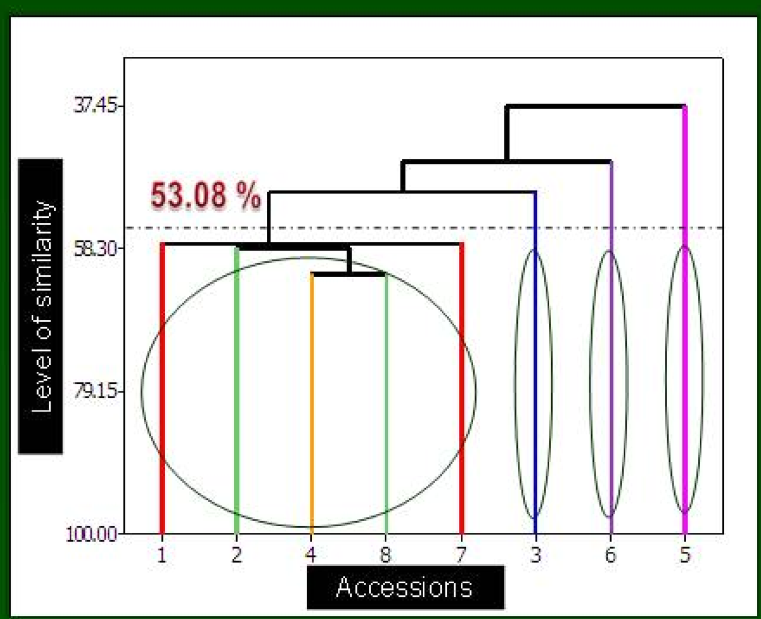
Characters	F value	CV (%)
Plant height at 7 WAS	1.54 ns	26.01
Stem diameter at 7 WAS	1.98 ns	7.75
Leaf length	1.33 ns	17.54
Length of leaflet	1.78 ns	16.55
No. Of flower/plant	0.98 ns	54.76
Flower stalk length	5.82**	8.47
Yield/plant (g)	3.58*	12.17

Note: ** Highly significant; *: significant; ns: not significant
WAS: week after sowing

Table 4. Yield of Kenikir

Accessions	Yield/plant (g)
Nanggung	84.08 b
Parung	88.33 b
Taman Sari	98.75 b
Cibinong	90.58 b
Pandeglang	118.75 a
Cadasari	79.17 b
Mandalawangi	97.00 b
Cimanuk	85.58 b

Note: Number in the same column followed by the same letter, not significantly different based on DMRT at 5 %.



Kenikir

Left: Leaf coloration in Kenikir (green and yellowish green) and leaflets arrangement (symmetrical and asymmetrical position)

Bottom (left-right): flower and seeds of Kenikir

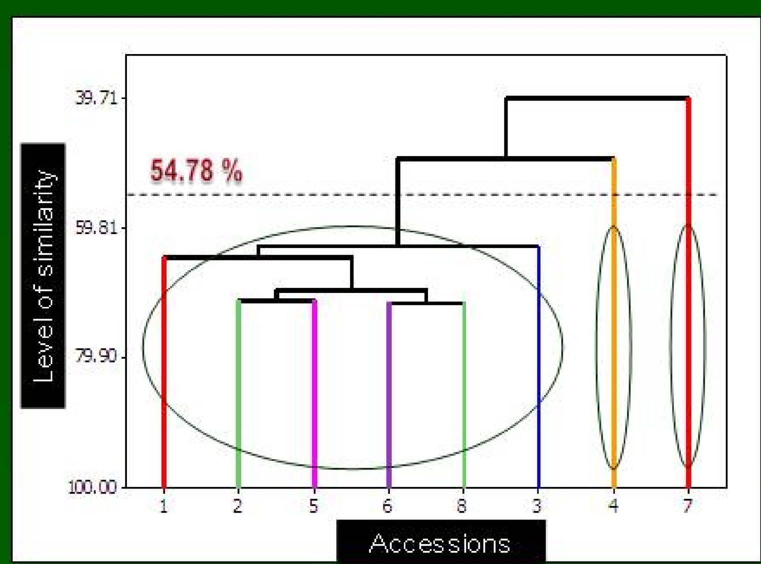
Table 5. Observation of characters in 8 Pegagan accessions

Characters	F value	CV (%)
Δ Plant length at 8 WAP	2.38 ns	22.06
Δ No. Of shoot at 8 WAP	1.11 ns	24.65
Leaf length	9.88**	8.42
Leaf width	12.03**	8.05
Petiole length	12.27**	8.69
Yield/plant	0.50 ns	35.03

Note: ** Highly significant; ns: not significant
WAS: week after sowing

Table 6. Yield of Pegagan

Characters	Yield/plant (g)
Nanggung	3.50
Parung	3.63
Taman Sari	4.74
Cibinong	3.29
Pandeglang	3.97
Cadasari	3.55
Mandalawangi	4.78
Cimanuk	3.96



Pegagan

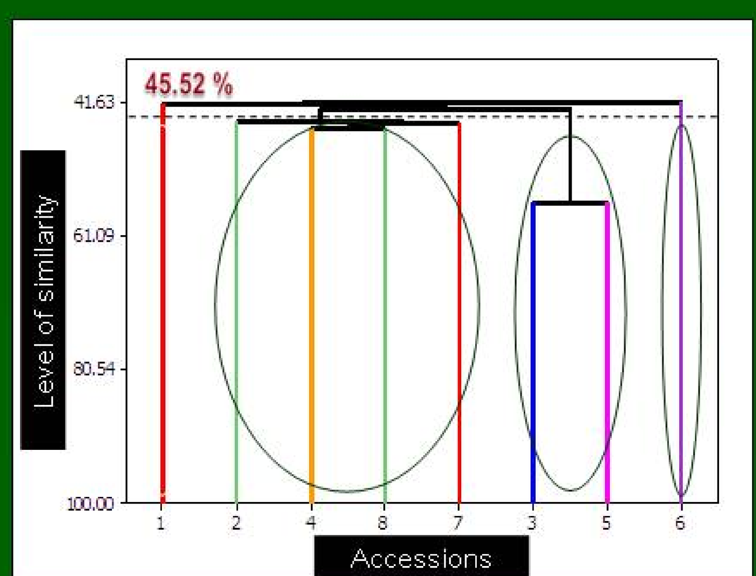
Table 7. Observation of characters in 8 Sambung Nyawa accessions

Characters	F value	CV (%)
Δ of plant height at 8 WAP	1.85ns	17.50
Δ of stem diameter at 8 WAP	0.82ns	3.24
Leaf length	1.07ns	13.51
Leaf width	1.10ns	13.16
Petiole length	0.81ns	13.99
Yield/ plant	1.17ns	25.58

Note: ns: not significant; WAP: week after planting

Table 8. Yield of Sambung Nyawa

Accessions	Yield/plant (g)
Nanggung	9.95
Parung	5.79
Taman Sari	7.97
Cibinong	7.05
Pandeglang	8.40
Cadasari	7.91
Mandalawangi	9.15
Cimanuk	7.47



Sambung Nyawa

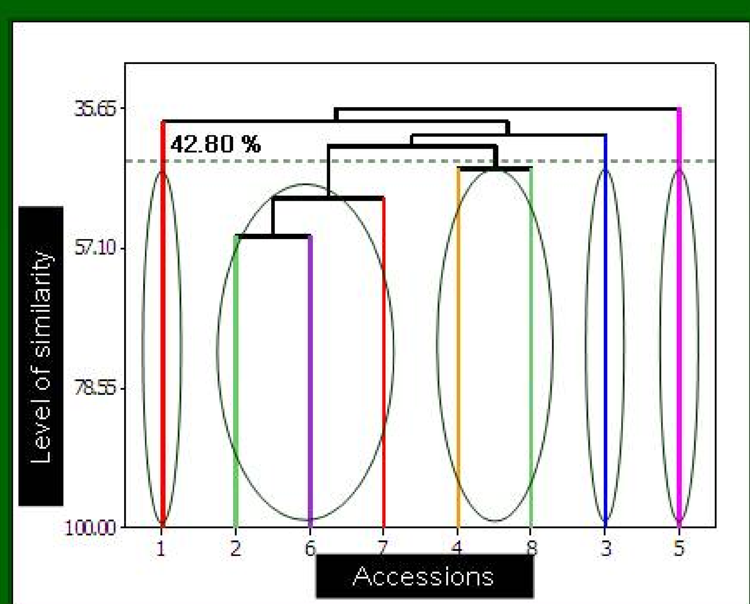
Table 9. Observation of characters in 8 Terubuk accessions

Characters	F value	CV (%)
Δ of plant height at 8 WAP	5.24**	24.70
Δ of stem diameter at 8 WAP	1.54ns	5.85
Leaf length	0.77ns	24.27
Leaf width	8.27**	3.86
Leaf sheath length	19.52**	3.86
Flower length	1.95ns	13.62
Flower diameter	2.78*	9.66
Yield/plant	2.19ns	23.33

Note: ** Highly significant; *: significant; ns: not significant
WAP: week after planting

Table 10. Yield of Terubuk

Accessions	Yield/plant (g)
Nanggung	5.93
Parung	8.23
Taman Sari	12.08
Cibinong	8.84
Pandeglang	10.17
Cadasari	8.01
Mandalawangi	9.77
Cimanuk	9.84



Terubuk

Edible part (young inflorescence of terubuk)

CONCLUSION:

There were morphological and agronomical differences among accessions of the 5 species. The highest yield per plant of both beluntas and kenikir were achieved by Pandeglang accession, for pegagan was achieved by Mandalawangi accession, for sambung nyawa was achieved by Nanggung accession, and for terubuk was achieved by Tamansari accession.

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