

Vegetable Trials on Panels of Promising Chinese Cabbage and Gailan Lines from AVRDC

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Objective

9th AARNET Meeting, 11-12 March 2014, Bandung

- To test panels of promising AVRDC's developed *Brassica* lines.
- To initiate AARNET-wide vegetable variety testing programme.

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Chinese kale, Gailan

Table of Characteristics of AVRDC-Selected Leafy Brassica Lines Lear Plant Leaf width Mautrity Plant Leaf Petiole Stem Stem Lines length Plant color height (DAS) weight (g) number length (cm) length (cm) width (cm) (cm) (cm)(cm) Kailaan AVLB1201 40-45 33 123 18 16 3 9 13 12 Green AVLB1202 40-45 36 167 9 20 18 17 10 3 Green

Chinese cabbage

Lines	Plant			Head				Outer leaves		
	Height (cm)	Width (cm)	Shape	Weight (g)	Diameter (cm)	length (cm)	Stell length (clii)	Outer leaves	inner leaves	
VI060641	30	53	Elliptical	747	11.6	21.1	5.72	Dark green	Light green	33-37
VI060642	36	57	Cylindrical	809	11.6	23.8	5.62	Dark green	Light green	35-40
VI060643	29	51	Obovate	891	11.6	20.3	6.22	Dark green	Light green	33-37
VI060644	29	50	Obovate	718	12.1	19.8	6.75	Dark green	Light green	30-35
VI060645	32	58	Obovate	763	11.7	21.7	5.96	Dark green	Light green	35-37
VI060646	27	55	Obovate	795	11.7	19.2	5.42	Dark green	Light green	30-35
VI060647	24	47	Obovate	778	12.5	20.0	5.96	Green	Light green	30-35
Average qu	antitative data v	were measured in	n May 2012 at A	VRDC, Shanh	ua, Taiwan					
DAT: davs	after transplanti	ng to commercia	I harvest stage							

Weather in Shanhua, Taiwan during April :19-24°C

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AVA Materials & Methods

Cultural Practice					
Growing media	Peat substrate as potting mix for growing seedlings.				
Growing structure	PVC-roof, side netted house				
Irrigation	Overhead sprinkler, 3 times for 3 minutes per day				
Sowing method	Each variety is transplanted into a soil bed (2 m X 1 m); spacing 15 cm X 15 cm or 20 cm X 20 cm after 16 days or 21 days in seedling trays.				
Fertilising practice	Dried chicken manure (1.5 kg/sqm), NPK 21-21-21, NPK 18-6-5 (15 g/sqm) .				
Control	Ban Lee Huat (BLH) F1 Gailan (42-45 days) and F1 Chinese cabbage (35 days)				





Transplanting at day-16 or day-21



Germination in seedling trays with peat substrate Harvesting at : 35 days for Chinese cabbage 42-45 days for Gailan





Control-BLH F1 Gailan

Harvest at 45 days



Control-BLH F1 Gailan

Harvest at 42 days



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Table 1: Plant Characteristics of Tested Gailan Lines (Jul-Aug 2013) (45 days)

Variety	Plant Length (cm)	Stem Length (cm)	Leaf length (cm)	Leaf width (cm)	No of leaves	Chlorophyll Spad reading	Plant weight (g)	Yield/m²
Control	33.2	14.5	16.4	16.0	9.3	51.7	117.3	3.6
AVLB 1201	41.3	20.3	18.7	15.1	8.5	53.0	114.5	3.1
AVLB 1202	37.7	17.9	18.4	14.9	10.2	55.0	127.7	3.4

Table 2: Plant Characteristics of Tested Gailan Lines (Sept-Oct 2013) (42 days)

Variety	Plant Length (cm)	Stem Length (cm)	Leaf length (cm)	Leaf width (cm)	No of leaves	Chlorophyll Spad reading	Plant weight (g)	Yield/m ²
Control	27.7	10.7	13.1	13.1	9.1	54.3	70.3	2.3
AVLB 1201	32.8	12.8	14.0	11.0	9.3	53.5	66.0	2.0
AVLB 1202	32.6	13.3	17.1	13.5	8.7	55.8	88.8	2.6



- Comparable/slightly better for plant weight and biological yield as compared to control.
- Both tested AVRDC lines are less rounded and less crumpled leaves as compared to control, significant longer plant length and leaf length as compared to control.
- Overall sensory evaluation is good.





- All tested lines showed **lower biological yield** as compared to control.
- Did not form head.
- Climate difference.

Right: AVRDC lines

Left: Control BLH F1 Chinese cabbage



Table 3: Plant Characteristics of Tested Chinese cabbage Lines (Nov-Dec 2013)

Variety	Plant Length	Leaf	Leaf width	No of	Chlorophyll Spad reading	Plant weight	Yield/m ²
	(cm)	(cm)	(cm)	ICAVES	opaureaung	(g)	
Control	29.8	26.2	16.6	9	28.2	162.6	4.1
CCS 1101	33.0	29.2	20.5	8	29.3	139.4	3.3
CCS 1102	32.5	28.2	17.7	8	29.1	121.3	2.7
CCS 1103	30.8	25.6	18.9	9	29.0	116.3	3.0
CCS 1104	29.4	24.3	16.2	9	29.7	92.9	2.2
CCS 1105	30.9	25.1	16.2	7	31.1	114.2	2.6
CCS 1106	29.4	24.1	16.8	10	30.5	127.9	3.0
CCS 1107	27.6	23.7	16.7	10	29.4	126.1	2.9



Table 4: Plant Characteristics of Tested Chinese cabbage Lines (Jan-Feb 2014)

Variety	Plant Length (cm)	Leaf length (cm)	Leaf width (cm)	No of leaves	Chlorophyll Spad reading	Plant weight (g)	Yield/m ²
Control	28.5	24.3	17.3	11.8	30.5	139.0	3.5
CCS 1101	29.8	24.6	16.4	9.3	30.1	94.1	2.8
CCS 1102	30.7	24.7	17.3	9.6	27.8	95.8	2.4
CCS 1103	27.4	22.1	16.7	8.8	26.7	73.8	1.9
CCS 1104	28.6	22.8	15.8	10.2	29.4	94.6	2.3
CCS 1105	28.6	23.6	16.2	8.8	35.1	84.6	2.2
CCS 1106	24.9	21.2	14.7	9.9	33.7	89.2	2.5
CCS 1107	24.3	20.2	14.8	9.9	32.3	80.7	1.9



- Expected plant weight should falls within range of 700-900g.
- All tested AVRDC lines have significant **low biological yield** as compared to control.
- Did not form head like the reference plants AVRDC due to **unfavourable** local climate.
- Overall sensory evaluation is good.

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Conclusion

• Tested Gailan lines have comparable biological yield as compared with control.

- Tested Chinese cabbage lines do not perform well in local climate, all have lower biological yield as compared to control.
- Tested varieties have **good** sensory acceptance.
- Tested Gailan lines can be selected for commercial production.



- Exploring with local commercial seed suppliers for commercial seed production for selected Gailan OP seeds.
- Variety trial on Broccoli varieties.



Thank you