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Growth, Yield, Qualities and Appropriate Sizes of Eight Baby Corn Cultivars (*Zea mays* L.) for Industrial Uses Grown on Oxic Paleustults Soil, Northeast Thailand

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Abstract: This field experiment was carried out at Khon Kaen University on Yasothon soil series (Oxic Paleustults soil) in late July to early November, 1998 to investigate the effects due to genotypes on growth, yields, industrial baby corn yields and kernel yields of the crop plants. The commercial maize cultivars being used were KU #1, SW 2, SRC 6, Baby corn #1, G 5414, KKU 922, CMB, and SSW. They were used as treatments and the design being used was a Randomised Complete Block Design with four replications.

The results showed that total dry weights, stem dry weights, leaf dry weights, leaf areas and Brix values per plant were somewhat inconsistently found particularly total dry weights during the early growth period but subsequently became similar for all treated cultivars whilst crop growth rate (CGR) increased with time to the second interval and then a decline yet no trend due to treatments was shown. Leaf area indices were not up to optimum whilst kernel yields for the tested cultivars were ranging from 2,694 to 6,600 kg ha^{-1} for SSW and Baby #1, respectively. However, industrial baby corn characters were ranking at the highest rated scores with KKU 922 followed by G 5414, SW 2, SRC 6, CMB, KU #1, SSW, and Baby corn #1, respectively while commercial baby corn yields were highest with G 5414 followed by KU #1, Baby corn # 1, KKU 922, SW 2, CMB, SRC 6 and SSW with the yields of 442, 408, 407, 402, 398, 393, 357 and 352 kg fresh weights/hectare, respectively. KKU 922 cultivar was predominantly shown its outstanding features for further experiments.

Key words: Baby corns, commercial baby corns, industrial characters, leaf area index, kernel yields, corn cobs

Introduction

Young cob of maize known as "baby corn" gained its popularity among growers in Thailand particularly within this decade. This vegetable crop of baby corns has been recognized as an export food product apart from being consumed within the country. Furthermore, the crop residues as by products could be used as both fodder and silage for livestock production both dairy and beef. The amount of baby corns being exported overseas has been increased from 41,145 tons in 1991 to 62,745 tons in 1999 (cf. the Office of Commission of National Research Council of Thailand). Therefore, there is an urgent need for the Thai scientists to carry out more experiments in order to find the most appropriate technologies that enable Thailand to be the largest exporter of baby corns within the coming decades. Kasikranan (1998) carried out experiments at Khon Kaen University on a breeding programme as to search for better cultivars that manifest its outstanding genes for better combining abilities in order to produce new genotypes for better quality of baby corns. However, the breeding programme seems to produce the outcome rather time consuming when it comes to the urgent need in producing baby corns for both the consumption of the country and exportation. Within this decade, there have been numbers of baby corn cultivars for commercial utilization in the markets in Thailand such as DMR No. 6, Suwan 1, 2 and 3, Super Sweet, Pioneer 3226, G 5423, (Sompong, 1986; Tongpanich, 1992; Faungfupong, 1994). Therefore, it may be of imperative value to select such cultivars for the experiments in order to choose the outstanding ones for commercial utilization. This is where the need to search for better cultivars for use in the country received perhaps more attention than that of the breeding programme for outstanding new genotypes. The selection for better adaptation of cultivars, appropriate technologies could possibly be an urgent task in order to meet the annu demand for a large amount of baby corns for industrial us and local consumption.

Materials and Methods

The experiment was carried out at the Experimental Far Khon Kaen University, Khon Kaen, Northeast Thailan during rainy season, July-October 1998 to investigat growth, yield, qualities, and appropriate sizes of baby co cultivars for industrial utilization and they were grown Oxic paleustults soil. The experiment was laid in Randomised Complete Block Design (RCBD) with fo replications. The initial mean values of soil pH (1:2. soil:water by volume), organic matter percentage, s nitrogen percentage, available soil phosphorous, a exchangeable potassium were 5.3, 0.79 %, 0.46 %, 7 ppm, 89 ppm, respectively. Dolomitic limestone was add to the soil to raise up the soil pH values at the rate of 1,87 kg/ha at two weeks before sowing followed by ploughi twice and harrowing once. Dolomite ($CaCO_3.MgCO_3$) w used to raise the initial mean value of soil pH from 5.3 approximately 6.7. The treatments being used consisted 8 maize cultivars, i.e. KU #1, SW2, SRC 6, Baby corn # G 5414, KKU 922, CMB and SSW. Each cultivar was us as a treatment. The plot sizes being used were 5 x 8 mete with a walking path between the plots of 1.5 meters. Ea plot received chemical fertiliser 15-15-15 (NPK) at the ra of 312 kg/ha and the application was carried out twice, i one half at the time of sowing and the other half at 35 da after emergence. Seeds of maize of each cultivar we sown directly into the soil by hand at the rates of 3-4 see per hill followed by the application of Carbofuran 3% insecticide at the rate of 37 kg/ha for the prevention insect damages to maize seeds. After sowing, Atrazi herbicide at the rate of 2.2 kg/ha was applied to the soil

pre-emergence of weed seeds. The distances being used were 60 x 30 cm between rows and within the row, respectively. Seedlings were thinned to one seedling per hill at 14 days after emergence followed by the application of urea by banding along the rows at the rate of 250 kg/ha to all maize plants. The maize plants were allowed to grow under rain-fed condition. The technique of growth analysis (Sestak *et al.*, 1971; Bullock *et al.*, 1993) was used to measure the changes in growth of the aerial plant parts of the maize plants. Ten plant samples from each subplot of each replication were taken at random at 18, 34, 53 and 69 days after emergence. Only the above ground level of plant samples was taken for the determinations of total dry weights, stem dry weights, leaf dry weights, leaf area index (L), baby corn cob dry weights, and leaf areas per plant. Baby corn cob fresh weights were harvested separately according to number of days of 50% cob silky extension and classified individually for its outstanding industrial characters as follows: (1) fresh weights of ears with husk, (2) fresh weights of ears without husk. (3) Ratios between fresh weights with husk and without husk, (4) fresh weights of commercial baby corn cobs, (5) fresh weights of deformed cobs, (6) fresh weights of off standard baby corn cobs, (7) fresh weights of kernel row disordered cobs. (8) brix values and (9) harvesting age of baby corn cobs (50% cob silky stage with 1 to 2 cm extended silks). Each of these items has a full score among the cultivars themselves of 8 (excellent) for the highest level of performance and rated down to 1 as the quality declines. The cultivars were rated accordingly to their scores, i.e. the higher the better. Baby corn cobs of each cultivar were harvested at 50% earing regardless of age, with the appearance of ear silks of 1 to 2 cm at ear tips. The harvested plant materials of each cultivar were dried in a forced air oven at 80° C for 5 days and then weighed out for dry weights whilst leaf areas per plant were measured from fresh leaves by leaf area meter, model no. AAC-400, Hayashi Denko Co., Ltd. Japan. Kernel yields per plant were taken at 83 days after emergence and the final cob yields were dried under the sun for one week and the kernel grains were oven dried at 60° C for 4 days as to attain approximately 14% grain moisture contents and eventually weighed out for final kernel yields. The data obtained were statically analysed using the method of Analysis of Variance (ANOVA) and the differences due to treatments were determined by the method of Dancan's Multiple Range Test (DMRT) with the use of MSTAT programme (Nissen, 1988).

Results and Discussion

Total Dry Weights, Stem Dry Weights, Leaf Dry Weights, Leaf Areas, Leaf Area Indices (LAI) and crop growth rate (CGR): With total dry weights per plant at 18 days after emergence, the results showed that the highest value of total dry weight was found with SW 2 followed by KKU 922, Baby corn #1, SRC 6, G 5414, KU #1, CMB, and SSW, respectively whilst stem dry weights were similar in all treated plants (Table 1.). Leaf dry weights were, in most cases, followed that of stem dry weights and did leaf areas and LAI. LAI values were relatively small suggesting that full light interception was distributed presumably up to 100 % among the crop canopies. The results indicated that at this stage of sampling period, the best three cultivars were SW 2, KKU 922 and Baby corn #1, respectively. These three cultivars could possibly be considered as the leading cultivars adapted well to the environment and they could possibly be used for further experiments. Nevertheless, with the second harvest at 34 days after emergence, the results showed that there was no trend in growth as that of the first harvest. That is the highest total dry weights were ranging from Baby corn #1, followed by SSW, KU #1, SW 2, G 5414, SRC 6, CMB and eventually KKU 922 (Table 2.).

Table 1: Total dry weights, stem dry weights, leaf dry weights, leaf areas and leaf area indices (LAI) per plant of 8 commercial baby corn cultivars at 18 days after emergence grown on Oxic Paleustults soil, Khon Kaen University, Northeast Thailand

Cultivars	Total dry Weights (g/plant)	Stem dry Weights (g/plant)	Leaf dry Weights (g/plant)	Leaf area (Cm^2 /plant)	LAI
KU # 1	7.36^{bc}	2.62	4.74^{abc}	1072.66^{bc}	0.597^{bc}
SW 2	10.84^{a}	4.20	6.64^{a}	1502.90^{a}	0.835^{a}
SRC6	9.03^{abc}	3.64	5.39^{abc}	1220.00^{abc}	0.680^{abc}
Baby # 1	9.45^{abc}	3.38	6.07^{ab}	1373.33^{ab}	0.762^{ab}
G 5414	8.82^{abc}	2.53	5.54^{abc}	1255.37^{abc}	0.700^{abc}
KKU 922	10.52^{ab}	4.30	6.22^{ab}	1408.60^{ab}	0.782^{ab}
CMB	6.86^{c}	2.66	4.19^{c}	948.89^{c}	0.527^{c}
SSW	6.65^{c}	2.64	4.01^{c}	907.64^{c}	0.505^{c}
Probability (P= 0.05)	*	NS	*	*	*
Coefficient of variation (CV %)	23.57	33.78	24.74	24.75	24.84

Remarks: Letters indicate significant differences of Duncan's Multiple Range Test,
* P = 0.05, NS = non significant.

Table 2: Total dry weights, stem dry weights, leaf dry weights, leaf areas and leaf area indices (LAI) per plant of 8 commercial baby corn cultivars at 34 days after emergence grown on Oxic Paleustults soil, Khon Kaen University, Northeast Thailand

Cultivars	Total dry Weights (g/plant)	Stem dry Weights (g/plant)	Leaf dry Weights (g/plant)	Leaf area (Cm^2 /plant)	LAI
KU # 1	61.52^{abc}	31.45^{b}	30.06^{c}	3950.31^{c}	2.19^{c}
SW 2	58.95^{bc}	29.80^{b}	29.15^{c}	3830.60^{c}	2.11^{c}
SRC6	56.79^{abc}	29.43^{b}	25.60^{cd}	3363.74^{cd}	1.86^{cd}
Baby # 1	85.61^{a}	41.88^{a}	43.73^{a}	5745.90^{a}	3.19^{a}
G 5414	56.48^{bc}	27.78^{b}	28.70^{c}	3770.74^{c}	2.09^{c}
KKU 922	41.89^{d}	23.35^{b}	13.66^{e}	1795.59^{e}	0.99^{e}
CMB	45.61^{cd}	23.35^{b}	20.95^{d}	2753.24	1.53^{d}
SSW	76.71^{a}	40.27^{a}	36.44^{b}	4788.25^{b}	2.66^{b}
Probability	**	**	**	**	**
Coefficient of variation (CV%)	11.12	13.81	9.64	9.64	9.54

Remarks: Letters indicated significant differences of Duncan's Multiple Range Test, ** P = 0.01.

The results indicated the inconsistency in growth of the maize plants. This may be attributed to the differences in gene combination of the individual cultivars themselves. At this sampling period, the first best three cultivars could possibly be the Baby corn #1 followed by SSW and KU #1, respectively. Stem dry weights were similar in all treated plants except that of the SSW cultivar, which was considered to be the highest whilst leaf dry weights and leaf areas followed a similar pattern as that of the total dry weights. LAI values were relatively low even though the values were greater than that of the initial sampling period. The results suggested that light interception among the crop canopies remained at a maximum level. The best three cultivars at this sampling period were Baby corn #1, followed by SSW and KU #1, respectively. The differences in growth characters of the maize plants coud possibly be attributed to the differences in gene combination as discussed earlier.

With the third harvest at 34 days after emergence, the results showed that total dry weights per plant were

Table 3: Total dry weights, stem dry weights, leaf dry weights, leaf areas and leaf area indices (LAI) per plant of 8 commercial baby co cultivars at 53 days after emergence grown on Oxic Paleustults soil, Khon Kaen University, Northeast Thailand

Cultivars	Total dry Weights (g/plant)	Stem dry Weights (g/plant)	Leaf dry Weights (g/plant)	Leaf areas (cm^2/plant)	Cob dry weights (g/plant)	LAI
KU # 1	21.68	54.49^{b}	25.21^{abc}	8313.03^{ab}	85.0	4.75^{ab}
SW 2	119.66	50.24^{b}	7.07^{a}	11160.77^{a}	9.18	6.18^{a}
SRC6	94.43	43.20^{b}	18.70^{c}	6350.11^{b}	7.09	3.53^{b}
Baby #1	123.43	56.04^{b}	29.33^{abc}	9958.13^{ab}	6.22	5.53^{ab}
G 5414	113.30	44.34^{b}	23.09^{bc}	7841.43^{ab}	7.88	4.35^{ab}
KKU 922	94.69	42.86^{b}	17.57^{c}	5965.25^{b}	7.89	3.31^{b}
CMB	103.24	49.21^{b}	19.55^{bc}	6638.75^{b}	8.18	3.68^{ab}
SSW	114.09	70.44^{a}	31.59^{ab}	10727.79^{a}	10.15	5.95^{a}
Probability	NS	**	**	**	NS	**
Coefficient of variation (CV%)	22.86	12.23	22.69	22.27	32.83	21.70

Remarks: Letters indicate significant differences of Duncan's Multiple Range Test, ** P = 0.01, NS = non significant.

Table 4: Total dry weights, stem dry weights, leaf dry weights, leaf areas and leaf area indices (LAI) per plant of 8 commercial baby co cultivars at 69 days after emergence grown on Oxic Paleustults soil, Khon Kaen University, Northeast Thailand

Cultivars	Total dry Weights (g/plant)	Stem dry Weights (g/plant)	Leaf dry Weights (g/plant)	Leaf areas (cm^2/plant)	Cob dry weights (g/plant)	LAI
KU # 1	149.14	49.46	21.74^{bc}	2692.20^{bc}	15.06	1.49^{bc}
SW 2	137.02	46.95	22.29^{bc}	2762.92^{bc}	17.20	1.53^{bc}
SRC6	222.43	43.71	14.75^{de}	1828.40^{de}	11.06	1.01^{de}
Baby # 1	321.61	194.61	32.34^{a}	4008.95^{a}	14.24	2.23^{a}
G 5414	160.08	46.39	25.35^{bc}	3142.15^{bc}	15.48	1.74^{bc}
KKU 922	108.64	36.27	13.22^{e}	1638.79^{e}	13.73	0.90^{e}
CMB	129.91	48.74	19.45^{cd}	2410.78^{cd}	15.06	1.33^{cd}
SSW	155.56	60.72	25.78^{b}	3196.30^{b}	18.89	1.77^{b}
Probability	NS	NS	**	**	NS	**
Coefficient of variation (CV%)	16.02	14.02	12.79	12.80	18.39	12.88

Remarks: Letters indicate significant differences of Duncan's Multiple Range Test, ** P = 0.01, NS = non significant.

similar in all treated plants and the highest was found with Baby corn #1 followed by KU #1, SW 2, SSW, G 5414, CMB, KKU 922 and SRC 6, respectively. Whilst stem dry weights were similar for all treated plants except that of SSW, which was highest (Table 3). Leaf dry weights were highest for SW 2 followed by SSW, Baby corn #1, KU #1, G 5414, CMB, SRC 6 and KKU 922, respectively. Leaf areas per plant followed a similar pattern as found with leaf dry weights. At this stage of growth, the first three cultivars to be chosen for fodder or silage could possibly be Baby corn #1, KU #1 and SW 2. However, when it comes to cob dry weights per plant, the results showed that cob dry weights were highest with SSW followed by SW 2, CMB, KU #1, KKU 922, SRC 6, Baby corn #1 and G 5414, respectively. Nevertheless, there were no statistical differences among the cultivars tested. The actual yields of baby corns were not harvested at the same time due to life cycle of each cultivar as specified earlier in the methods (Bar-Zur and Saadi, 1990; Bar-Zur and Schaffer, 1993). Therefore, cob dry weights at this harvesting stage were not identified as fresh weights of baby corn yields. At this stage of growth, leaf area indices (LAI) were ranging from 3.31 to 6.18 for KKU 922 and SW 2, respectively. The results suggested that LAI values were not up to maximum level since maximum LAI should be at the range between 8-10 (Suksri *et al.*, 1991). Therefore, there had been presumably 100% light interception among the crop canopies (Mengel and Kirkby, 1987; Suksri and Seripong, 1990; Suksri, 1994). Therefore, further works on distances between rows and within the row must be adjusted in order to obtain maximum out put of input resources such as radiant energy from the sun and soil nutrients, that is suitable leaf area index value must be attained.

At the final harvest (Harvest 4) for dry matter yields and leaf areas, the results showed that total dry weights, stem dry weights and cob dry weights per plant were similar in all cultivars tested except that of leaf dry weights and leaf areas where leaf dry weights were highest for Baby corn #1 followed by SSW, G 5414, SW 2, KU #1, CMB, SRC 6 and KKU 922, respectively (Table 4). The differences were highly significant at 1% level. The differences could be attributed to the differences in gene combination resulted in different maturity age of the cultivars. The earlier maturity cultivars produced a number of dead leaves where leaf senescence has occurred whilst those have reached maturity late having more living leaves hence LAI values of earlier maturity cultivars decreased with time tremendously. The results agree with the work reported by Suksri *et al.* (1991).

With crop growth rate (CGR), the results showed that CGR values at the first interval were ranging from 10.88 gm $m^{-2}day^{-1}$ to 26.45 gm $m^{-2}day^{-1}$ for KKU922 and Baby corn#1, respectively (Table 5). The differences were large and highly significant whilst at the second interval, CGR values were highest with SSW and least with Baby corn#1 variety yet no statistical significant among treatments was found. CGR values at the final interval were highest with Baby corn#1 and least with SSW variety. The differences were statistical significant. However, there was no consistent trend on crop growth rate found among the baby corn cultivars tested. Crop growth rate of all maize cultivars tested increased with time to the second interval then declined to the final interval except Baby corn #1 variety. This may be

Table 5: Crop growth rate (CGR, $gm.m^{-2}day^{-1}$) of 8 baby corn cultivars at 1st, 2nd and 3rd intervals grown on Oxic Paleustults soil at Khon Kaen University, Northeast Thailand

Cultivars	1st interval	2nd interval	3rd interval
KU#1	18.80^{b}	17.47	9.59^{bc}
SW2	16.71^{bc}	17.69	6.04^{c}
SRC6	16.24^{bc}	11.29	6.12^{c}
Baby # 1	26.45^{a}	11.06	17.61^{a}
G5414	16.55^{bc}	16.62	16.24^{ab}
KKU922	10.88^{d}	15.44	4.84^{c}
CMB	13.30^{cd}	16.98	9.26^{bc}
SSW	24.34^{a}	18.09	5.89^{c}
Probability	**	NS	*
Coefficient of variation (CV %)	12.02	27.02	55.16

Remarks: Letters indicate significant differences of Duncan's Multiple Range Test, ** P = 0.01, * P = 0.05

Table 6: Fresh weights per hectare of ears, whole baby corn, commercial baby corn, and ratio between husk and baby corn of 8 commercial genotypes of Baby corn grown on Oxic Paleustults soil, Khon Kaen University, Northeast Thailand

Cultivars	Ears with husk (Kg/ha)	Whole baby corn (kg/ha)	Commercial Baby corn (kg/ha)	Ratio between husk and baby corn
KU # 1	6976.43^{a}	1670.85^{ab}	408.11	4.62^{abc}
SW 2	4853.10^{b}	1670.47^{ab}	398.49	3.00^{bc}
SRC6	6770.61^{ab}	1670.92^{ab}	357.58	4.01^{abc}
Baby # 1	6214.14^{ab}	1244.65^{b}	407.58	5.46^{a}
G 5414	6564.52^{ab}	1369.21^{ab}	442.90	5.02^{ab}
KKU 922	7060.63^{a}	2155.52^{a}	402.33	3.43^{abc}
CMB	7186.73^{a}	2164.92^{a}	393.32	3.47^{abc}
SSW	5384.09^{ab}	1929.40^{ab}	352.08	2.85^{c}
Probability	NS	NS	NS	*
Coefficient of variation (CV%)	18.87	29.98	20.38	32.28

Remarks: Letters indicate significant differences of Duncan's Multiple Range Test, * P = 0.05, NS = non significant

attributed to life cycle of the maize cultivars themselves, which were not the same hence each has its own juvenile stage. Crop growth rate values were, in general similar to those reported by Awal and Khan (2000) but for the third interval, in most cases, the values were similar to that of Evans (1975b).

Baby Corn Industrial Characters: For baby corn industrial characters, the results showed that mean values of number of days at 50 % earing of each cultivar were 46, 43, 42, 46, 44, 38, 46, and 49 days for KU #1, SW 2, SRC 6, Baby corn #1, G5414, KKU 922, CMB and SSW, respectively. The results indicated that life cycle of the cultivars was not similar hence baby corn yields were not determined at the same harvesting period. This may be attributed to gene combination of the cultivars itself. With ear weights, the results showed that the highest weight was found with CMB followed by KKU 922, KU #1, SRC 6, G 5414, Baby corn #1, SSW and SW 2, respectively. For the whole baby corn fresh weights, the highest value was found with CMB, followed by KKU 922, SSW, SRC 6, KU #1, SW 2, G 5414 and Baby corn #1, respectively (Tables 6 and 7.) whilst brix values of baby corns were much higher than that of Bar-Zur and Schaffer (1993). The baby corn yields were lower than that of Faungfupong and Ochapong (1994) but much greater than that of Sahoo and Panda (1997). The lower baby corn yields found with this work could be attributed to the low density of plant populations reflecting the low values of LAI and perhaps the poor initial soil fertility, which was relatively low.

Table 7: Fresh weights of deformed shape, off standard, kernel row disorder, dry kernel yields, and percentages of brix values of 8 commercial genotypes of baby corn grown on Oxic Paleustults soil, Khon Kaen University, Northeast Thailand

Cultivars	Deformed Shape baby corn (kg/ha)	Off standard baby corn (kg/ha)	Kernel row disorder of baby corn (kg/ha)	Dry kernel yields (kg/ha)	Brix (%)
KU #1	434.3	444.40^{bc}	384.00^{abc}	4273^{cd}	6.8^{abc}
SW 2	347.4	542.60^{abc}	382.00^{abc}	5063^{bc}	7.4^{ab}
SRC 6	388.7	705.60^{ab}	308.90^{bc}	3696^{cde}	6.6^{bc}
Baby # 1	460.6	76.39^{c}	300.00^{bc}	6600^{a}	6.6^{bc}
G 5414	276.6	422.20^{bc}	225.50^{c}	6360^{ab}	6.2^{c}
KKU 922	393.3	1000.00^{a}	359.50^{bc}	3547^{cde}	7.7^{a}
CMB	429.6	869.40^{ab}	472.00^{ab}	3036^{de}	7.3^{ab}
SSW	215.3	567.10^{abc}	594.90^{a}	2694^{e}	6.5^{bc}
Probability	NS	**	*	**	*
Coefficient of variation (CV %)	46.89	53.63	36.43	16.06	10.27

Remarks: Letters indicate significant differences of Duncan's Multiple Range Test, ** P = 0.01, * P = 0.05, NS = non significant.

With commercial baby corn (kg/ha) fresh weights, the results showed that commercial baby corns were highest for G 5414 followed by KU #1, Baby corn #1, KKU 922, SW 2, CMB, SRC 6 and SSW, respectively. Whilst ratios between whole cob (with husk) and baby corn were highest with SSW, followed by SW 2, KKU 922, CMB, KU #1, SRC 6, G 5414 and Baby corn #1, respectively. Each column has its own scores and they were summed up in Table 8. The results on industrial characters

Table 8: Rating scores on industrial characters of 8 baby corn cultivars grown on Oxic Paleustults soil, Khon Kaen University, Northeast Thailand

Industrial Characters	KU#1	SW2	SRC6	BabyCorn #1	G5414	KKU 922	CMB	SSW
1	6	1	5	3	4	7	8	2
2	4	3	5	1	2	7	8	6
3	7	4	2	6	8	5	3	1
4	3	7	4	1	2	6	5	8
5	2	6	5	1	7	4	3	8
6	6	5	3	8	7	1	2	4
7	3	4	6	7	8	5	2	1
8	5	6	7	4	5	8	4	3
9	4	6	4	4	1	8	6	2
Total scores	40	43	41	35	44	51	41	35
Ratted levels	5	3	4	6	2	1	4	6

Remarks: Industrial character scores, 1 = fresh weights of ears with husk, 2 = fresh weights of baby corn ears without husk, 3 = ratio between fresh weights of ears with husk and without husk, 4 = fresh weights of commercial baby corn cobs, 5 = fresh weights of deformed cobs, 6 = fresh weights of off standard baby corn cobs, 7 = fresh weights of kernel row disordered cobs, 8 = brix values, and 9 = harvesting age of baby corn cobs.

showed that KKU 922 has the highest scores followed by G 5414, SW 2, CMB, KU #1, SRC 6, SSW, and Baby corn#1, respectively. Therefore, the best four cultivars were KKU 922, G 5414, SW 2 and CMB, respectively. With kernel yields, the results indicated that the highest kernel yield was with Baby corn#1 and the least was found with SSW variety with the values of 6600 and 2694 kg ha^{-1}, respectively. Kernel yields were much greater than that of Ayub *et al.* (2000) for Baby corn#1 and G 5414 whilst the rest were slightly lower. For further experiments, the first two cultivars to be used should be KKU 922 and G 5414 since both cultivars seem to perform its efficacy to match the purposes in term of industrial utilization. To attain maximum out put of the land areas, some other aspects in increasing both quality and baby corn yield must be taken into account, e.g. suitable LAI and the improvement of soil fertility.

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