

Table-1 : Influence of different harvest dates on moisture content of pod and seed (dry cent) and seed yield and its attributes in soybean cv. CO 1.

Parameters	Days after 50% flowering					C.D.
	H ₁	H ₂	H ₃	H ₄	H ₅	
Moisture content of pod	69.49 (56.48)	62.79 (52.20)	56.17 (48.55)	37.54 (37.76)	18.65 (25.58)	0.37**
Moisture content of seed	68.18 (56.66)	60.98 (50.33)	52.85 (46.08)	34.54 (35.99)	15.58 (23.15)	0.34**
Pod length	3.24	3.31	3.38	3.44	3.22	0.07**
Number of matured pods per plant	46.49	55.08	60.46	66.73	65.60	5.71**
Seed yield per plant	5.77	9.09	11.07	13.22	10.46	1.05**
Shelling percentage	44.64 (41.92)	51.64 (45.95)	59.78 (50.64)	62.42 (52.18)	57.36 (49.23)	3.18**
Number of seeds per plant	115.95	124.64	134.04	151.40	104.54	16.67**

(Figures in parentheses are arcsine value)

Table-2 : Mean seed recovery of different size grades (per cent) and 100 seed weight (g) as influenced by harvest treatments in soybean cv. CO 1.

Parameters	Days after 50% flowering					Mean
	H ₁	H ₂	H ₃	H ₄	H ₅	
Seed recovery	2.02	12.52	48.93	60.31	52.25	44.01
G ₁	(7.79)	(19.77)	(44.98)	(50.96)	(47.86)	(34.27)
G ₂	27.71 (31.18)	43.36 (40.96)	31.28 (33.97)	28.13 (32.02)	34.08 (32.75)	41.14 (34.37)
G ₃	70.27 (57.46)	44.12 (41.60)	19.77 (26.18)	11.56 (6.59)	14.21 (25.82)	39.98 (34.17)
100 seed weight						
G ₁	6.255	8.616	9.520	10.765	11.053	9.242
G ₂	5.484	6.560	7.510	7.759	7.734	7.089
G ₃	4.266	5.232	5.479	5.791	5.601	5.274
Mean	5.335	7.936	7.503	8.105	8.129	—

(Figures in parentheses are arcsine values)

C.D.	Seed recovery			100 seed weight		
	H	G	HG	H	G	HC
NS	NS	NS	7.92**	0.19**	0.14**	0.32**

H₁ = Harvesting of pods at 55 days after 50 per cent flowering

H₂ = Harvesting of pods at 60 days after 50 per cent flowering

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|---------------|---------|---------------|
| 4. Variety | : | CO 1 |
| 5. Plot size | : | 2 m X 2.4 m |
| 6. Spacing | : | 30 cm x 10 cm |
| 7. Fertilizer | : | N : P : K |
| | (kg/ha) | 40 : 80 : 40 |

The following observations were recorded in respect to the produce from ten randomly selected plants in each replication of each treatment.

1. Moisture content of pod
2. Moisture content of seed
3. Mean pod length
4. Number of matured pods per plant
5. Seed yield per plant
6. Shelling outturn
7. Mean number of seeds per plant

The pods from different treatments were harvested, dried and hand shelled and were pre-cleaned and size graded using 15/64" R (G₁), 14/64" R (G₂) and 14/64" P (G₃) round perforated sieves. The percentage recovery of seeds in each size fraction was recorded on weight basis. The weight of 100 seeds was also recorded.

RESULTS AND DISCUSSION

Seed yield and quality were affected by the pre and post maturation condition (Kozłowski, 1972). Costa (1979) in soybean found that seed yield and quality decreased with delay in harvesting.

The present study indicated that the seed yield increased up to 55 days after 50 per cent flowering and thereafter it declined. The trend was similar with respect to the number of matured pods per plant, number of seeds per plant and seed yield per plant. The effect of pods per plant on seed yield observed in the present instance was in conformity with that reported by Pandey and Torrie (1973). The pod and seed moisture content was high in early harvest upto 55 days after 50 per cent flowering and it decreased in subsequent harvest. The decrease in moisture content of seeds associated with the degree of maturation were evident in the studies of Ramakrishnan *et al.* (1979). The variation could be ascribed to the differences in the maturity of seeds and amounts and composition of reserve foods accumulating in them (Delouche, 1973).

The shattering losses were also observed due to the delay in the date of harvesting of pods. In the present study shattering of seeds occurred to an extent of 21.0 per cent that caused reduction in seed yield. This is supported by similar results recorded by Jacqueline and Ramaswamy (1984).

A progressive increase in shell; ing percentage was observed upto 55 days after 50 per cent flowering. Identical results were obtained by Garcia and Hanway (1976). The recovery of large seeds (G_1) increased with date of harvest and was more in the harvest at 55th day after 50 per cent flowering then it decreased. In contrast, the recovery of small seed (G_2) decreased up to 55th day after 50 per cent flowering and thereafter it increased. Seed size is a reflection of seed maturity (Austin, 1972). The high proportion of small size seed recovered from the harvest made 40, 45 and 50 days after 50 per cent flowering may be mainly due to shrivelled and immature seeds resulting from improper development and poor accumulation of food reserves. The seed size improvement was observed in the later harvest. The increase in seed size observed with increasing dates of maturity could be witnessed in the study carried out with redgram by Karivaratharaju (1974), and Vanagamudi *et al* (1985).

An increasing trend in 100 seed weight was noticed with the increasing dates of harvest. According to Harcher and Purvis (1965) the seed weight exhibited positive association with embryo weight. Bremner *et al.* (1963) found a linear relationship between seed size with the amount of reserve material in the seed. From these evidences and also from the high values pertaining to

the 100-seed weight of seeds harvested at 55 days after 50 per cent flowering, it could be concluded that the seed-filling would be maximum and complete only beyond 55 days after 50 per cent flowering.

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