Short Communication

Evaluation of germplasm lines for seed yield traits in Job's tears (*Coix lacryma jobi* L)

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ABSTRACT

Job's tears (*Coix lacryma jobi* L), a lesser known and old crop is superior to major crops like wheat, maize, rice etc in terms of nutritive values. Moreover the crop shows considerable genetic diversity which can be exploited for productive and sustainable use. Very little information is available about the crop. Present study was conducted to compare various seed yield traits of various germplasm lines of the crop at Indira Gandhi Krishi Vishwavidyalaya, Raipur, Chhattisgarh during 2020-21. The days to maturity of plants range was between 102 (IGJT 20-2) and 162 days (IGJT 20-28). Average plant height varied from 92 (IGJT-2) to 168 cm (IGJT 20-23). The highest number of tillers per plant (15) was in IGJT 20-22 and the lowest (3) in IGJT 20-19. Average seed yield per plant was in the range of 11 (IGJT 20-29) and 95 g (IGJT 20-16).

Keywords: Germplasm; Job's tears; seed yield; components

INTRODUCTION

Job's tears (*Coix lacryma jobi* L) is a lesser known but very old crop. This is a minor cereal belonging to family Gramineae and its dehusked grain is consumed as a staple food like rice. It can be grown without much inputs like irrigation, chemical fertilizers and other chemicals. The range of crude protein in it is from 13.9 to 18.5 per cent and lipid content from 5.3 to 8.2 per cent (Seyie et al 2018). These values are much higher than major cereals like rice, wheat, maize etc. Its seeds are used as decorative breads. Stems are used to make matting. Job's tears is very useful and productive grass increasingly viewed as potential energy source. The present study shows that contrary to general perception, non-conventional food crop like Job's tears is superior to major crops like wheat, maize, rice etc in terms of nutritive values. Moreover the crop shows considerable genetic diversity which can be exploited for productive and sustainable use. Very little information is available about the crop.. Crop is localized to certain areas and communities for centuries. In India its cultivation is prominent in hilly terrain of Nagaland and tribal area of Jharkhand. Area and production is unknown in India.

MATERIAL and METHODS

The experiment consisted of 31 germplasm lines of Job's tears. Seed material was grown in the field of germplasm unit, Department of Genetics and Plant Breeding, Indira Gandhi Krishi Vishwavidyalaya, Raipur, Chhattisgarh during 2020-21. Selected lines were sown in one row of 3 m length with row to row and plant to plant distance of 45 and 15 cm respectively. Normal cultural practices were followed from time to time. The mean data were recorded on 5 plants from each line for traits like days to maturity, plant height (cm), number of tillers per plant and seed yield per plant (g).

RESULTS and DISCUSSION

The data given in Table 1 show that there was a considerable variation in days to maturity of plants among the lines studied. The range was between 102 days in IGJT 20-2 and 162 days in IGJT 20-28. Average plant height varied from 92 cm in IGJT-2 to 168 cm in IGJT 20-23. The range of number of tillers per plant also showed considerable variation, the highest number of tillers per plant (15) being in IGJT 20-22 and the

Table 1. Yield traits of germplasm lines of Job's tears

Germplasm line	Days to maturity	Plant height (cm)	Number of tillers/plant	Seed yield /plant (g)
IGJT 20-1	112	102	13	37
IGJT 20-2	102	92	8	16
IGJT 20-3	120	132	14	61
IGJT 20-4	128	125	6	14
IGJT 20-5	135	120	9	50
IGJT 20-6	141	157	5	56
IGJT 20-7	121	128	12	71
IGJT 20-8	118	143	11	66
IGJT 20-9	105	120	8	35
IGJT 20-10	109	119	6	41
IGJT 20-11	141	139	5	76
IGJT 20-12	152	121	9	34
IGJT 20-13	110	120	8	22
IGJT 20-14	125	120	9	48
IGJT 20-15	119	120	11	52
IGJT 20-16	123	131	8	95
IGJT 20-17	128	134	7	68
IGJT 20-18	145	137	14	75
IGJT 20-19	155	165	3	16
IGJT 20-20	149	144	5	48
IGJT 20-21	152	162	7	42
IGJT 20-22	119	160	15	75
IGJT 20-23	132	168	7	36
IGJT 20-24	140	144	5	22
IGJT 20-25	135	105	3	17
IGJT 20-26	139	115	5	50
IGJT 20-27	160	172	5	45
IGJT 20-28	162	167	3	11
IGJT 20-29	115	100	11	63
IGJT 20-30	134	165	5	43
IGJT 20-31	110	166	3	16

IGJT = Indira Gandhi Job's tears

lowest (3) in IGJT 20-19. Average seed yield per plant was in the range of 11 g in IGJT 20-29 and 95 g in IGJT 20-16. For seed yield, out of 31 germplasm lines like IGJT 20-16 (95 g/plant), IGJT 20-11 (76 g/plant), IGJT 20-22 along with more number of tillers per plant and IGJT 20-19 (75 g/plant) and IGJT 20-8 (66 g/plant) were found to be promising for improvement of Job's tears.

REFERENCES

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