



# Seed yield potential of canola quality oilseed rape (*Brassica napus*) genotypes after cutting for fodder in India

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## INTRODUCTION

Oilseed rape introduced in India in mid eighties has become an important oilseed crop of north India due to its high yield potential, oil content, white rust resistance, feasibility of transplanting etc. In spite of massive shortage and dependence on imports of vegetable oil and availability of canola cultivars of rapeseed-mustard in India, wheat gets more preference due to assured price and procurement by the government agencies. Livestock farming is an integral component of farming systems in India and dairy contributes significantly to the regular income of farmers. Low productivity of animals is due to inadequate availability of quality fodder especially green fodder during early winter months (September-December). Kirkegaard *et al* (2012) and Susan *et al* (2014) have reported cultivation of oilseed rape for seed after cutting for fodder in Australia. Such an attempt in India will improve the availability of green fodder and quality edible oil and seed meal and thus will make crop more remunerative for farmers.

## OBJECTIVES

To study the effect of time of cutting for fodder on green fodder and seed yield of canola oilseed rape genotypes sown on different dates.

## MATERIALS AND METHODS

- Location** Punjab Agricultural University Ludhiana, India  
(30°54'N latitude, 75°48'E longitude, 247 metres above msl)
- Year** 2016-17
- Field condition** Loamy sand soil (*Typic ustocrepts*), medium in available nitrogen and phosphorus.
- Treatments**
- Main plots** A. Genotypes (3) GSC 7, OS 1 and Z 8  
B. Sowing dates (2) 20 September and 20 October
- Sub plots** Cutting for fodder (4) No cutting, Cutting at 30, 45 and 60 days after sowing
- Design of experiment:** Split plot; **Replications:** 3

## RESULTS

Crop sown on 20 September produced significantly higher green fodder (13.9 t/ha), seed (2.863 t/ha) and oil (1.175 t/ha) yield than 20 October sowing (5.33, 2.325 and 0.957 t/ha, respectively). Different genotypes produced statistically similar green fodder yield (9.16 – 9.9 t/ha) whereas mean seed (2.807t/ha) and oil yield (1.163 t/ha) of OS 1 was significantly higher than GSC 7 (2.588, 1.061 t/ha, respectively) which significantly out yielded Z 8 (2.386, 0.975 t/ha, respectively). Green fodder yield with cutting at 60 DAS (17.66 t/ha) was 5.27 and 2.25 times higher than that obtained from cutting after 30 and 45 DAS, respectively. Cutting for fodder at 30, 45 and 60 DAS reduced the mean seed yield by 19.3, 56.3 and 97%, respectively and oil yield 18.9, 54.6 and 95.3%, respectively over uncut crop (3.475, 1.422 t/ha). The highest fodder yield (24.1 t/ha) was produced by GSC 7 followed by OS 1 (23.5 t/ha) whereas uncut OS 1 produced the highest seed (3.978 t/ha) and seed (1.656 t/ha) yield followed by Z 8 (3.754, 1.527 t/ha, respectively) when sown on 20 September.

## CONCLUSION

Dual purpose canola oilseed rape offers green fodder during lean period and high oil yield after cutting.  
Early sowing gives more time for recovery of crop after cutting.  
Genotypes vary in their fodder and seed yield potential.  
Delay in cutting though increases fodder yield, reduces seed yield of all test genotypes.

## REFERENCES

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**Keywords:** Canola oilseed rape, genotypes, sowing dates, nitrogen, green fodder, seed yield, oil content

**Table: Green fodder, seed, stover and oil yields of canola oilseed rape as influenced by sowing dates, genotypes and time of cutting for fodder**

Treatments	Green fodder yield (t/ha)	Seed yield (t/ha)	Stover yield (kg/ha)	Harvest index (%)	Oil (%)	Oil yield (t/ha)
<b>Sowing dates (SD)</b>						
20 September	13.91	2.863	10.606	22.1	41.1	1.175
20 October	5.33	2.325	7.678	23.4	41.1	0.957
CD (p=0.05)	0.98	0.139	0.586	0.60	NS	0.139
<b>Genotypes (G)</b>						
GSC 7	9.78	2.588	7.938	25.2	41.1	1.061
Z 8	9.90	2.386	10.123	19.7	40.9	0.975
OS 1	9.16	2.807	9.366	23.5	41.5	1.163
CD (p=0.05)	NS	171	0.717	0.74	NS	0.171
<b>Cutting management (C)</b>						
No cut	-	3.475	13.367	21.3	40.9	1.422
Cutting at 30 DAS	3.35	2.913	10.054	23.0	41.1	1.195
Cutting at 45 DAS	7.84	2.223	7.534	22.9	41.4	0.920
Cutting at 60 DAS	17.6	1.764	5.613	23.8	41.2	0.728
CD (p=0.05)	0.97	0.138	0.536	0.71	NS	0.138
SD x G	NS	NS	NS	NS	0.78	NS
SD x C	1.37	NS	0.758	1.0	0.51	NS
G x C	NS	NS	0.929	1.24	NS	NS
S x G x C	NS	NS	NS	NS	NS	NS



**Dual purpose canola: Cut for fodder at 60 days after sowing**

