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RESEARCH NOTE

Inheritance of flower colour and siliqua position in *Brassica rapa* spp. *yellow sarson*

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In plants morphological markers are visible markers to trace out linked traits, which are useful for a plant breeder. Morphological markers are required to select the desirable characters for improvement of a crop. Among the major crops of the rapeseed groups yellow sarson (*Brassica rapa* spp. *yellow sarson*) has yellow seed coat colour, leads higher fibre content in the meal. Meal with higher fibre content is nutritious for animal consumption. However, oil with optimum fatty acid profile is nutritious for health but in *Brassica rapa* spp. *yellow sarson* oil is considered inferior in quality in most other vegetable oils as it contain very high amounts of undesirable long chain fatty acids like eicosenoic acid and erucic acid. Identification of desirable fatty acid composition at early stage will help breeder to isolate elite genotype for development of quality variety in Brassica. Flower colour in *Brassica rapa* generally is yellow/pale and rarely white (Sachan *et al.*, 2007 and Rahman *et al.*, 2001) investigated that white flower colour is linked with an erusic acid allele in *Brassica rapa*, which can be used as a morphological marker to select lines within desirable erucic acid in oil for breeding programme.

Present investigation was carried out to study the inheritance of flower colour and siliqua position in *Brassica rapa* spp. *yellow sarson*. During 2010-11 six strains *viz.*, NDYS-2018, NDYS-123 and Ragini with yellow flower colour were crossed with two PYS-7 and PYS 2007-7 having white flower and in the same experiment the cross was made between NDYS-123 upright siliqua positions with PYS-1 droopy type siliqua position. The F_1 and F_2 generations of four crosses were obtained in the flowering year. F_1 progenies of all these crosses were grown during 2011-12. At flowering each plant were observed carefully to record the observation on flower colour and siliqua position. In F_1 ten randomly selected plants from each cross were bagged with muslin cloth bag to avoid out crossing and produce generally pure F_2 seeds. These F_2 seeds were sown in the large plot to record observations on flower colour and siliqua position.

The expression of yellow colour in F_1 plants of three crosses between five strains *viz.*, NDYS-2018, NDYS-123 and Ragini with yellow flower colour was crossed to two PYS-7 and PYS 2007-7, with white flour colour expressed complete dominance of yellow colour over white colour. In F_2 generation, each plant was screened for flower colour. In the cross NDYS-2018 x PYS-2007-7, out of 325 plants, 255 had yellow flower and 70 plants with white flowers in the cross PYS-7 x NDYS-123, out of 266 plants 190 had yellow flower and 76 plants with white flowers in the cross NDYS-2018 x Ragini, out of 200 plants 151 had yellow flower and 49 plants with white flowers. In case of inheritance of siliqua position the F_1 plants between PYS-7 x NDYS-2018

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