ALLELOPATHIC WEED SUPPRESSION OF *BRASSICA* ACCESSIONS AGAINST MAJOR WINTER WEEDS IN NORTH INDIA

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Brassica species have been cultivated in India since 4000 BC and utilised as fodder crops, greens, root crops, condiments, green manure crops, oil seed crops and smother crops. The smothering ability of these spp. may be harnessed for weed control through selecting weed smothering varieties. This investigation determined the smothering effect of *Brassica* accessions on major winter weeds to exploit the inhibitory effect of potent weed smothering accessions exploited for weed management.

Field experiments were conducted during 2000–2001, 2001–2002 and 2002–2003 to evaluate 95 *Brassica* accessions (45 accessions of *B. juncea* and 50 accessions of *B. nigra)* for their allelopathic activity on major winter weeds viz., *Phalaris minor, Avena ludoviciana, Cirsium arvense, Chenopodium album, Melilotus alba* and *Rumex retroflexus.* Six accessions of *B. juncea* viz., Varuna, BSC-5, RH-9808, RH-9911, RH-9804, RC-1425 caused significant reduction (75-82%) in the density of weeds up to 75 days after its germination. At harvest (120 days), 75-98% reduction was observed in these accession plots. *B. nigra* accessions viz., 8404, 1-7-6342, RH-7846, YSC-56, CCN-15, HNS-9601, GSH-1, YSC-5 caused 60-71% reduction in the density of winter weeds upto 75 days after its germination. At harvest (120 days), 60-83% reduction was observed in these accession plots.

In bioassays, the aqueous extracts of seven accessions of *B. juncea* (BSC-5, RH-9808, RH-9911, RH-9804, RC-1425) and eight accessions of *B. nigra* (8404,1-7-6342, RH-7846, YSC-56, CCN-15, HNS-9601, GSH-1, YSC-5) delayed and considerably inhibited the germination and seedling growth of all test weeds. Further studies would be done to identify allelopathic compounds released from various *Brassica* accessions.