

SUCCESS OF LANCELEAF SAGE (*Salvia reflexa* Hornem) COHORTS IN SOYBEAN. Gauri A. Nazre and George O. Kegode, Graduate Research Assistant and Assistant Professor, North Dakota State University, Fargo, ND 58105

Lanceleaf sage is an annual broadleaf weed native to North America. Lanceleaf sage has become a problem in recent years in North Dakota. Soybean (*Glycine max*) is a major crop in North Dakota and lanceleaf sage is known to be competitive in soybean. Field studies were conducted to evaluate the influence of lanceleaf sage emergence time relative to soybean emergence on lanceleaf sage biomass accumulation and seed production. Glyphosate resistant soybean was seeded in late May in rows spaced 76 cm apart, and lanceleaf sage was seeded 6 cm from soybean rows 0, 7, 14, 21, 28 and 35 days after soybean seeding. The experiment was arranged as a randomized complete block with six replicates and a plot size of 3.5 m by 2.3 m. Lanceleaf sage emerged 0, 4, 23, 28, 32 and 36 days after soybean emergence. Lanceleaf sage plants were spaced 1 m from each other after thinning and all other weeds were removed by hand or by covering lanceleaf sage plants and overspraying soybean with glyphosate. Lanceleaf sage biomass and seed production was assessed at the time of soybean physiological maturity. Lanceleaf sage that emerged 0 and 4 days after soybean produced 9.4 and 4.6 g of biomass per plant, and 733 and 420 seeds per plant, respectively, but were statistically similar. Lanceleaf sage seedlings that emerged 23 days after soybean or later produced 3.3 g of biomass or less per plant, and 221 seeds or fewer per plant. A linear relationship between lanceleaf sage biomass and seed production ($r^2 = 0.68$) was observed. This suggests that lanceleaf sage biomass could be used to estimate seed production. Lanceleaf sage competition with soybean was highest when lanceleaf sage emergence was within 4 days of soybean emergence.