Sources of variations	Degree of freedom	Sum of the squares	Mean square
locations	3	161035465.2	53678488.4**
E1	12	5210097.3	434174.8
Genotype	15	26118104.2	1741206.9**
Location × genotype	45	10660190.4	2341206.9**
E2	180	18695924.7	103866.2
Total	255	221719781.7	
		CV:10.54	

Table 1 combined analysis of variance sunflower cultivars studied in 4 locations

Note: **, *, Ns, respectively, indicating no significant difference statistically significant at the 5 and 1 percent level