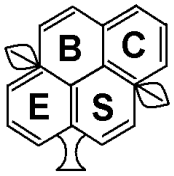

Journal

RELATION OF OIL, PROTEIN, FATTY AND AMINO ACIDS SOYBEANS TO THE PREVAILING CLIMATE FACTORS DURING REPRODUCTIVE GROWTH STAGE OF DIFFERENT SOWING DATES.

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ABSTRACT

Soybean (c.v Giza 111) was sown on five sowing dates started from late April up to early August at Agric. Res .Sta. at Giza, . Fac. Agric. Cairo Univ., Egypt to investigate the response of soybean seed constituents to the prevailing climate factors during the reproductive growth stage. Maximum Temperature(Tmax.), minimum temperature (Tmin)., average temperature(Tav.), diurnal temperature (DTR), sunshine hours (SSH), solar radiation energy SRE, accumulated growing degree days (AGDD) and accumulated photo- thermal units (APTU), were used as independent factors in relation to the oil , protein ,fatty acids and amino acids and as dependent factors in a simple regression analysis . Protein content increased as temperature parameters were increased, while oil content slightly decreased .The high R^2 value of Tav. show the simple linear regression equation is fit to explain the variation in protein content . Total saturated fatty acids (palmitic and stearic) were less affected, while oleic mono unsaturated fatty acids (MUSFA) increased and linoleic poly unsaturated fatty acids (PUSFA) decreased under high temperature .The high R^2 value for each of Tmin. and Tav. indicates the fitness of simple linear regression equation to explain the variation in each of oleic and linoleic acids. High values of total essential amino acids were negatively correlated with Tmax., while total non- essential amino acids (NEAA) were positively correlated with each of Tmin. and Tav..The total amino acids (AA) were positively correlated with Tmin. The R^2 value indicated the fitness of the simple regression equation to explain the variation in NEAA due to change in each of Tmin and Tav. regardless of the other factors.

Key words: climate parameters,oil, , protein fatty and amino acids, soybean, sowing date.