

DISTRIBUTION OF NITROGEN CONTENT AT DIFFERENT GROWING STAGES OF
SUNFLOWER

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SUMMARY

Mexico imports 90% of its requirements of oil crops despite the fact that sunflower is cultivated in the central and southern parts of Tamaulipas state; the problem being the lack of specific varieties for the region. The Oil Crops Interdisciplinary Research Group (GIO) at the University is carrying out basic and applied research to integrate a technology package for this crop.

The objective of the present work is to study the nitrogen content in different organs of sunflower, at the main growing stages. There are reports that 68% of the total amount of nitrogen in the ripe seeds comes from the leaves.

For the experimental part 4 varieties (40 plants per variety) provided by the GIO, were seeded in a greenhouse; fertilizer formula (NPK) 130-80-00 was used and irrigation was applied accordingly to the plants requirements. Four plants from each variety were analysed at each of the five growing stages (accordingly to C.E.T.I.O.M. scale) which correspond to blooming (3); ripening (1) and harvesting (1). The plants were divided in leaves, stems and receptacles, measuring dry weight and nitrogen content for each sample.

Results were analysed by means of a totally random factorial design (4x5x3); 4 varieties, 5 stages, 3 organs and 4 repetitions (plants). There was significant difference between varieties and highly significant between stages, organs and stages-organs interaction. The multiple test of Tukey was used for effects interpretation. The nitrogen content trend was obtained from stages vs organs plots, by polynomial regression (1st, 2nd or 3th order).

ANVA DE LA TENEUR D' AZOTE ENTRE VARIETES STADES ET ORGANES

F.V.	D.L.	C.M.
VARIETE	3	0.428*
STADE	4	4.910**
ORGANES	2	31.740**
V x S	12	0.163NS
V x O	6	0.140NS
S x O	8	5.946**
V x S x O	24	0.170NS
E	60	0.132
TOTAL	119	

ANVA AUXILIAIRE POUR LES INTERPRETATIONS DES INTERACTIONS STADES/ORGANES ET ORGANES/STADES. DE TOURNESOL.

F.V.	D.L.	C.M.
S/TIGE	4	3.001 *
S/FEUILLE	4	11.163 *
S/CAPITULE	4	2.639 *
ORGANE/4.1	2	17.265 **
ORGANE/4.3	2	15.764 **
ORGANE/4.5	2	10.226 **
ORGANE/5.0	2	8.726 *
ORGANE/5.4	2	3.544 *
E.E.	60	0.132

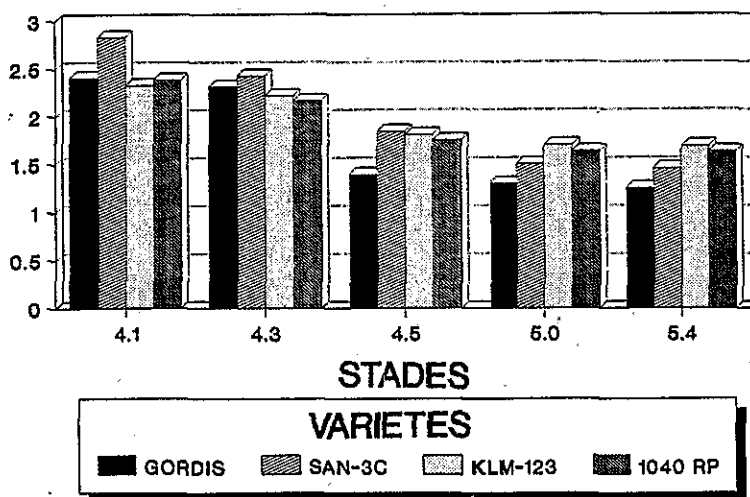
CORRELATION MULTIPLE DES QUELQUES CARACTERES DES VARIETES
DE TOURNASOL

	M.S.	S.F.	HAUT.	D.C.	HUILE	AZ
M.S.						
S.F.	0.99601*					
HAUT.	0.66743	0.60029				
D.C.	0.93576	0.96242*	0.36200			
HUILE	0.98082*	0.99286*	0.53936	0.97163*		
AZOTE	- 0.96948*	- 0.97497*	- 0.61119	- 0.92264	- 0.98682*	

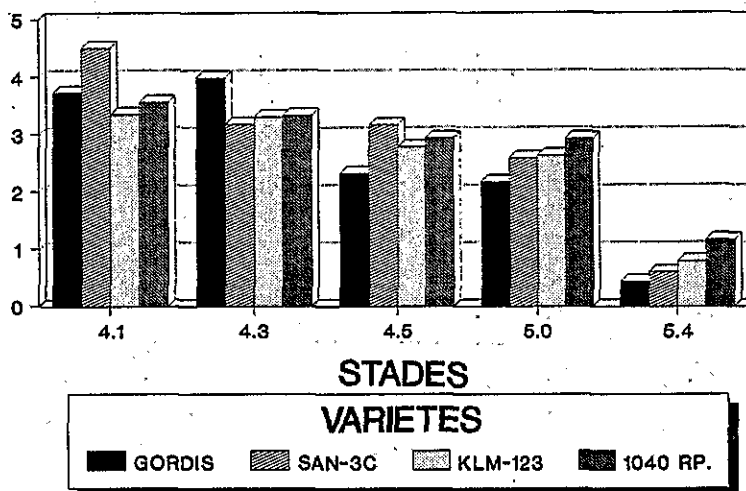
CORRELATION MULTIPLE DES QUELQUES CARACTERES DES VARIETES
DE TOURNASOL

	M.S.	S.F.	HAUT.	D.C.	AZOTE
M.S.					
S.F.	0.44484				
HAUT.	0.82389**	0.61028**			
D.C.	0.75072**	- 0.04396	0.57049**		
AZOTE	- 0.22477	0.61649**	0.07473	- 0.68486	

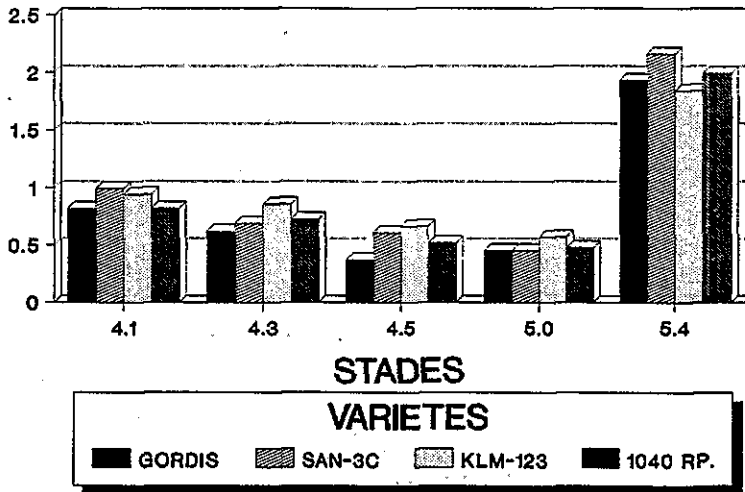
TENEUR D AZOTE



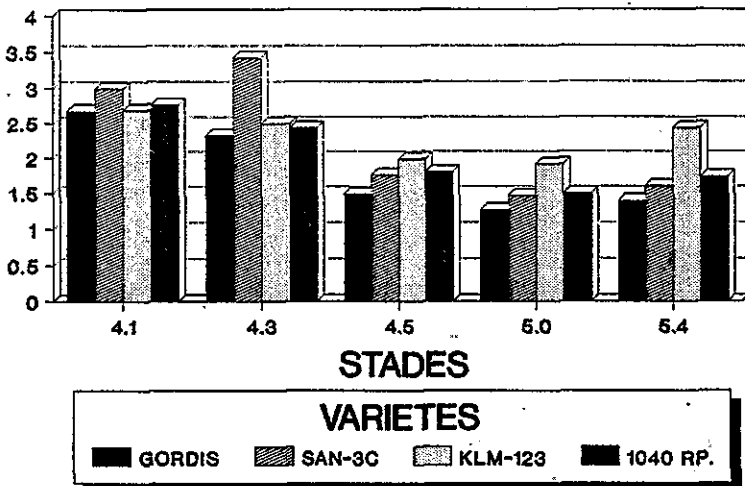
TENEUR D AZOTE (%) DANS LES FEUILLES



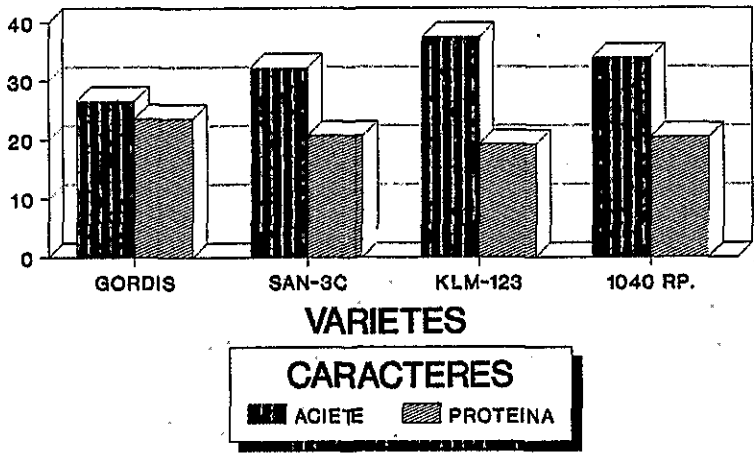
TENEUR D AZOTE (%) DANS LES TIGES



TENEUR D AZOTE (%) DU CAPITULE



TENEUR EN % HUILE ET PROTEINES DANS LES GRAINES



MATIERE SECHE TOTALE (G)

