RELATION BETWEEN PLANTING AND HARVEST DATES AND SUNFLOWER "SEED" DORMANCY

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Summary

Sunflower in Brazil has been cultivated under different climate conditions. Sowing time varies from one region to another and it is not difficult to have problems with seed dormancy.

Three sunflower cultivars were seeded every month during 2 years in the Experimental Station of Monte Alegre do Sul, Agronomic Institute of Sao Paulo State, Brazil, in order to verify the dormancy behaviour at different climatic conditions.

The cultivars showed different initial dormancy and dormancy release. Trials done between February and May showed less seed dormency and faster dormancy release. The higher levels of initial dormancy were found in trials done in February.

[1] Research Scientists [2] with research grants from National Research Council, CNPq.

Introduction

Sunflower in Brazil has been cultivated in different regions and time of the year. In the South, the best sowing time is July-August, with harvest in December-January; in the mid-West and South-Western States, the best option for sowing is February-March, and harvest is done between June and July. Sometimes, seeds produced in one region are planted in the others or immediately after harvest.This fact can often bring many problems with seed dormancy.

This research was done in order to verify the influence of sowing and harvest dates on the germinability of sunflower seeds and the dormancy behaviour at different climatic conditions and cultivars.

Material and Methods

Three sunflower cultivars were planted every month, during 2 years, in the Experimental Station of Monte Alegre do Sul, IAC, Brazil. The cultivars used were: IAC-Anhandy, an open-pollinated variety; VNIIMK-8931, a russian population , and Contisol 621, a simple hybrid. The trials were seeded montly in a randomized complete block design, with 4 replications. In all trials field plot were 5 rows 5m long and 1m apart, in a density of 50.000 plants/ha. Only the 3 central rows were used for the analysis.

The heads were harvested after physiological maturity and seed analysis were done according to Brazil (1976).The tests for germinability and dormancy level were conducted weekly in the first month after harvest and monthly after that untill 100 days from harvest.

Results

Analysing Table 1 and Figure 1 we notice differences in dormancy 15 days after harvest for all cultivars and planting dates. IAC-Anhandy showed a medium level of dormancy in the average.; the lowest dormancy level was obtained in the harvest of May, both for IAC-Anhandy and VNIIMK; for Contisol

FIGURE 1- DORMANCY LEVEL AND RELEASE OBSERVED IN THE MAIN HARVEST DATES IN BRAZIL , CV. IAC-ANHANDY

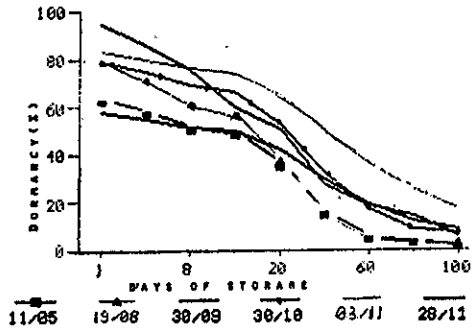


FIGURE 2- DORMANCY LEVEL AND RELEASE OBSERVED IN THE MAIN HARVEST DATES IN BRAZIL, CV. VNIIMK

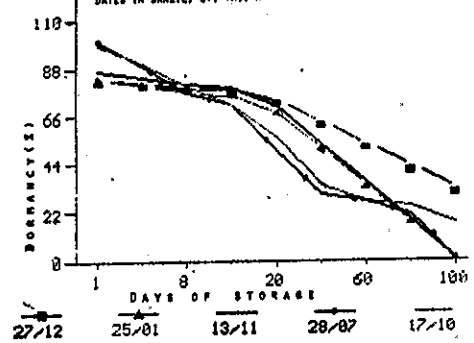


FIGURE 3- DORMANCY LEVEL AND RELEASE OBSERVED IN THE MAIN HARVEST DATES IN BRAZIL, CV. CONTISOL 621

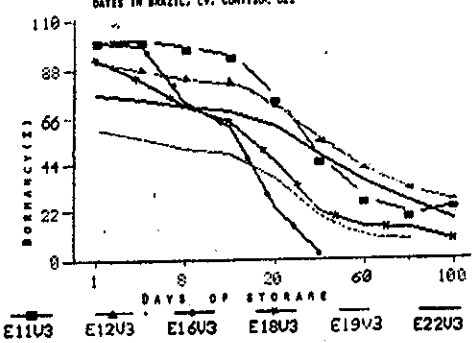


FIGURE 4- DORMANCY LEVEL AND RELEASE OF 3 SUNFLOWER GERMPLASM HARVESTED IN THE SAME DAY

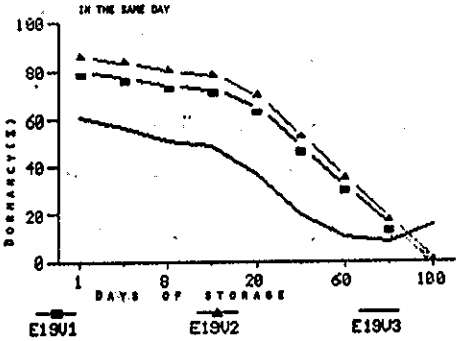
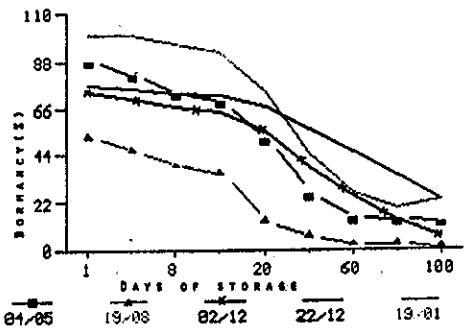


FIGURE 5- DORMANCY LEVEL AND RELEASE OBSERVED IN DIFFERENT HARVEST DATES, CV. CONTISOL 621



- The lowest dormancy level,15 days after harvest,was obtained for Contisol 621 sowed in April and harvested in August.
- It appears to have not a fixed rule for all types of sunflower materials in relation to dormancy level and release.

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