بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

ECOLOGICAL FACTORS AFFECTING SUNFLOWER SEED-BORNE MYCOFLORA AND THEIR EFFECTS ON YIELD AND OIL QUALITY

By

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ABSTRACT

IBRAHIM HAFEZ EL-SAYED EL-ABBASI, **ECOLOGICAL FACTORS AFFECTING SUNFLOWER SEED-BORNE MYCOFLORA AND THEIR EFFECTS ON YIELD AND OIL QUALITY**

Evaluating the situation of sunflower oil crop under different climates and during storage were studied.

More than 15 fungi, including field and storage fungi were determined as sunflower seed-borne mycoflora.

Some variations were observed between seed health data obtained from different regions. Storage fungi were superior to field fungi in warm weather seeds.

Chlorine soaking resulted in eliminating some fungal inocula which recorded in low frequencies such as T. roseum and Verticillium sp. Other fungi were only reduced to different levels.

Blotter Method with 12/12 hr visible florescent light/darkness was more effective in detecting seed-borne fungi followed by Deep Freezing Method with 12/12 hr visible florescent light/darkness. Deep Freezing Method with complete darkness was the least effective, but the best in detecting A. niger and F. semitectum.

Pioneer 6480 seemed to be highly susceptible to charcoal and sclerotinia rot diseases followed by Hysun 24 and Hysun 33. In contrast, it was the best resistant one against head rot diseases.

Pioneer 6480 gave the highest yield when planted as early as June 1st (62.45 g / 1000 seeds) and decreased descendingly by delaying sowing dates. Charcoal rot disease was the only one recorded high incidence when sunflower planted early. Late sowing dates seemed to increase incidences of sclerotinia, head rots and leaf spot diseases.

Chemical seed gave unclear effects onthe final yield obtained when estimated as weight of 1000 seeds.The same trend was noticed in case of oil percentage.

Treating seeds with bioagents increased germination percentages comparing to the control treatment. They also enhanced 1000 seed weight especially in newly reclaimed areas under drip irrigation system.

Seed-borne fungi : The storage condition combination (40% RH - 10°C) was relatively the best in conserving seed conditions as long as 90 days followed by store combination of 40% RH - 30°C, while 90% RH - 10°C developed certain fungal growth such as Penicillium spp. The last regime (90% RH - 30°C) was the worst.

Very limited changes had been recorded in seed oil content in four designated stores for as long as 150 day.

High relative humidity (and subsequently, high moisture content) led to a considerable increase in free fatty acid content. Worse results obtained when store was worm and humid for a long period of time.

Starting storage period with as low as possible fungal contamination delayed toxin production. Seeds collected from worm regions then stored in 90% RH - 30°C were highly contaminated with aflatoxins.

Seeds inoculated with major storage fungi then stored at humid warm environment resulted in considerable changes of oil properties. Moreover, fatty acid composition greatly varied from the control (not inoculated) treatment.

Key words : Sunflower, seeds, climate, fungi, oil, storage, aflatoxins, fatty acids, chemical analysis.

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