ABSTRACT: Sugar beet (Beta vulgaris var. saccharifera, L.) is an economically important crop grown worldwide for sugar production. Cercospora leaf spot disease, caused by Cercospora beticola, is one of the most important vegetative diseases in the northern and central Delta, which affects plant growth and sugar production in Egypt. This study was conducted as an attempt to control cercospora leaf spot disease on sugar beet using resistant cultivars, in addition to using bioagent as an alternative method to the use of fungicides. Results obtained from this work could be summarized as follows. The present study is a try to identify some Cercospora isolates that were collected from six districts in three governorates in Egypt using micro satellite DNA polymorphic analysis the results revealed that the polymorphic percentage in all tested isolates ranged between 83.33 % to zero with total polymorphic band reading 49% as for cluster analysis for RAPD the result showed that isolates were roughly grouped in two major groups according to their geographic origin. The first group consist of the two isolates collected from El-Mansoura and Dekernes, while the second group consist of the four isolates collected from Sidi-salem, El-Reyad, sendses and El-Gemmeiza. In all cases the similarity indices between all isolates were larger than 0.80 except for the two isolates collected from El-Mansoura and Dekernes with sendses isolates where the similarity index was less than 80%. The presented data confirmed a wide diversity among all tested sugar beet genotypes in their resistance to Cercospora beticola infection in both Gemmeiza and Sakha locations. In Gemmeiza location Heba cv. seemed to be the most resistance genotypes where it recorded the lowest disease severity followed by Motvos than faridacv. On the other hand, pleno cultivars was the most susceptible genotypes. As for Sakha location, Motvos cv scored the lowest cercospora leaf spot disease severity followed by Toucan and Ribera cultivars with the disease severity percentages in contrast of this pleno cultivar was the most susceptible cultivar. Root yield, root content for TSS and sugar percentages of all tested sugar beet genotypes were lower under Sakha condition than Gemmeiza. The presented data confirmed a wide diversity among all tested sugar beet genotypes in their leaf content of total phenols in both Gemmeiza and Sakha locations. The production of total phenols in all tested genotypes almost associated with the infection with Cercospora beticola in both locations. All biological control treatments, as well as the fungicide, lead to a significant reduction in the severity of Cercospora leaf spot compared to the control. The highest root yield fed was recorded under Eminent fungicides followed by pseudomonas fluoresence then, Trichoderma hamatum in both Gemmeiza and Sakha locations. Sugar beet plants that treated with Trichoderma hamatum and T. harzianum showed highly desirable valves for TSS, sugar percentage and sugar purity in both locations. All biological control treatment, as well as the fungicide, led to significant increased leaf content of total phenols compared to the control. Sugar beet plants that treated with the fungicide Eminent recorded the highest leaf content of total phenols followed by T. hamatum. Then pseudomonas fluoresence.

**Key words:** Cercospora beticola, Pathogenicity, RAPD fingerprinting.
درسات متقدمة على تفعيل الأوراق السركسوري على بنجر السكر

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المسمى العلمي:
Cercospora beticola

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 Wouldn't a RAPD (Random Amplified Polymorphic DNA) ب hiểmاً أقتصادياً (Beta vulgaris var. saccharifera, L.)

A gadget in the same area of the field of interest. The survey is conducted to collect information from various sources, such as data collected from the field, laboratory data, and expert interviews. The data is then analyzed to identify the most likely causes of the issue. The report is then written, which includes a conclusion and recommendations for future action.

melkhshary

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