

INHIBITION OF APHOTECIA PRODUCTION BY SCLEROTIA  
WITH Ca-CYANAMIDE

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*Sclerotinia sclerotiorum* is one of the most important pathogens of sunflower in Hungary. Unfortunately, Hungarian soils become more and more infected with sclerotia and this fungus may become a limiting factor of sunflower production.

It is a very important task to decrease the damage of the fungus.

According to the experimental results, chemical treatment of the sunflower stand is not effective enough, so we have to search for other procedures.

The most simple method would be if we could demolish the sclerotia in the soil. One of these methods may be the chemical treatment of the soil with Ca cyanamide.

Ca-cyanamide and its transformation products inhibit the germination of sclerotia and by that way, it would be possible to decrease the infection of sunflower capitula and stems.

In 1987, we examined the effectiveness of Ca-cyanamide in a field plot experiment.

Size of the experimental area: 100 m<sup>2</sup>  
Sunflower variety: Topflor  
Sowing date: 27. April, 1987  
Date of placing the sclerotia  
into the soil: 23. May, 1987

All sclerotia (300 pieces) were placed near the soil surface (2 cm deep).

Ca-cyanamide is marketed as a nitrogen fertilizer at 20% N, 55% CaO of active ingredients under the brand name of "Perkla". (Perkla is made by SKW Trostberg and put into circulation by Chemie-Linz.)

Time of treatment: 1. June, 1987

Mode of treatment: band application with hands on the soil surface without incorporation

Application rate: 200 kg/ha, 20 g/m<sup>2</sup>

Irrigation: started on the 1st of August (10 mm/day) every day, until the 1st of September

The first apothecia appeared on 17. August.

Ca-cyanamide inhibited the production of apothecia.

On the treated plot, only 3 sclerotia brought apothecia, and on the untreated control plot 15times more - all together 47 sclerotia produced apothecia.

Treatment of the soil with Ca-cyanamide may be a perspective way to decrease ascospore production, and so, damage of *Sclerotinia sclerotiorum* in sunflower.