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Neurospora trehalase against heat-inactivation.

The heat-inactivation of trehalase and invertase at 65 and 60°C proceeds more rapidly in ascospore extracts than it does in intact ascospores. By contrast, little protection was afforded these enzymes when they were heated in intact conidia and mycelia of *N. tetrasperma* or *N. crassa*, as compared with extracts therefrom.

The protective effect of ascospores for trehalase was studied by dialyzing extracts. Dialysis of ascospore extracts before heating lowered the heat-resistance of trehalase, whereas dialysis afterward did not. When the diffusates from extracts of mycelium, conidia and ascospores were added to dialyzed enzyme extracts from each of these stages, that from ascospores gave by far the most protection to trehalase. Ashed diffusates were inactive, indicating that the active principle is not a mineral. Nor is it trehalose, because prior treatment of the diffusates with purified trehalase did not remove their protective activity.

On the other hand, invertase was only poorly protected by diffusates which protected trehalase from heat-inactivation. ■ ■ ■
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