



# Investigation on the Major Fungal Diseases of Sugarcane in Guangxi, China

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# Introduction

- ◆ The increasing sugarcane area;
- ◆ The growth of the plantation age;
- ◆ The long-term neglect to disease control.
- ◆ Sugarcane diseases have become a threat factor of the sugarcane production.



# How to do this?

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- ◆ To provide the information about the prevention and control measures for sugarcane diseases management and to sustain sugarcane production.
- ◆ **Methods:** The survey was conducted by using random field checking, visiting and talking to farmers, inquiring the diseased material, investigating in disease affected areas for the kinds and occurrence degree of diseases.
- ◆ **Time:** Aug, 2008 – Dec, 2010
- ◆ **Location:** Guangxi, P. R. China

# What kinds fungal disease were investigated?

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13 fungal diseases were found in this investigation

# The Result

Disease	Pathogen	Distribution
Pineapple Disease	<i>Thielaviopsis paradoxa</i> (de Seynes)V.Hohnel	Longan, Longzhou, Laibin, Liuzhou, Tiandong, Yizhou, Beihai, Hezhou, Guiping
Smut	<i>Ustilago scitaminea</i> Sydow	Longan, Longzhou, Laibin, Liuzhou, Tiandong, Yizhou, Beihai, Hezhou, Guiping
Top Rot Disease	<i>Fusarium moniliforme</i> Sheldon	Longan, Liuzhou, Beihai, Yizhou, Guiping, Longzhou
Rust	<i>Puccinia melanocephala</i> H. & P.Syd.	Guiping, Beihai,
Leaf Scorch Disease	<i>Stagonospora sacchari</i> Lo et Ling	Wuxu, Shanglin
Red Rot Disease	<i>Colletotrichum falcatum</i> Went	Longan, Longzhou, Laibin, Liuzhou, Tiandong, Yizhou, Beihai, Hezhou, Guiping
Ring Spot Disease	<i>Phyllosticta saccharicola</i> P. Henn.	Longan, Longzhou, Laibin, Liuzhou, Tiandong, Yizhou, Beihai, Hezhou, Guiping
Sheath Blight Disease	<i>Pellicularia sasakii</i> (Shirai) Ito	Nangning, Beihai
White Spot Disease	<i>Elsinoe sacchari</i> Lo	Beihai,
Eye Spot Disease	<i>Helminthosporium sacchari</i> (Breda de Haan) Butler	Longzhou, Laibin, Liuzhou, Beihai,
Yellow Spot Disease	<i>Mycovellosiella koepkei</i> (kruger) Deighton	Longan, Liuzhou, Tiandong, Yizhou, Beihai, Hezhou, Guiping
Brown Stripe Disease	<i>Bipolaris stenospilum</i> (Drechs.) Shoem.	Longan, Longzhou, Laibin, Liuzhou, Tiandong, Yizhou, Beihai, Hezhou, Guiping
Brown Spot Disease	<i>Cercospora longipes</i> Butler	Longan, Longzhou, Laibin, Liuzhou, Tiandong, Yizhou, Beihai, Hezhou, Guiping

# Four major fungal diseases

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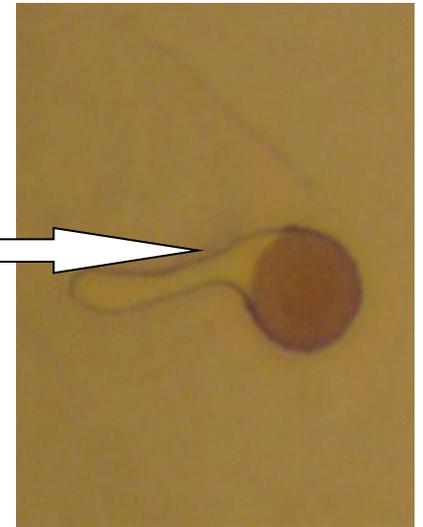
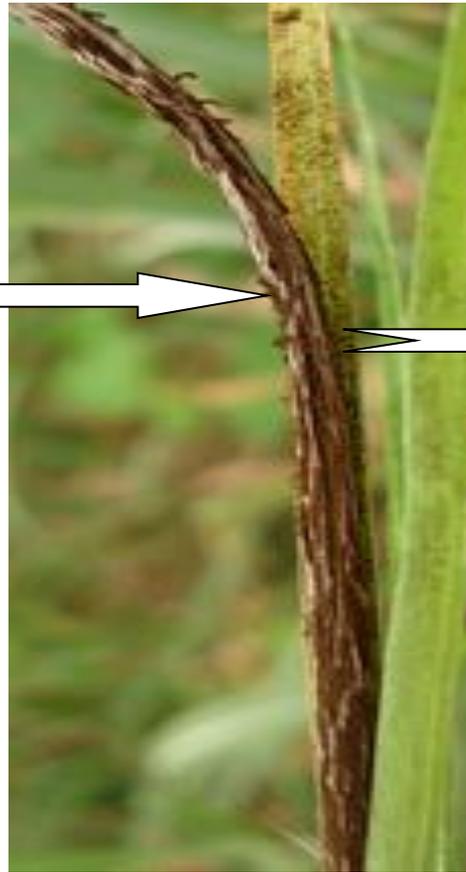
The details of four major fungal diseases, including smut, pineapple disease, top rot disease and rust disease, which influence the quality and yield of sugarcane were introduced.

# Smut

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Smut disease was observed in almost sugarcane areas. It caused severely damage on the sugarcane crop, especially the ratoon crop, the older ratoon crop. The disease incidence rate range between 10-40%, and it as high as 70% in serious areas.

# Smut



# Pineapple disease

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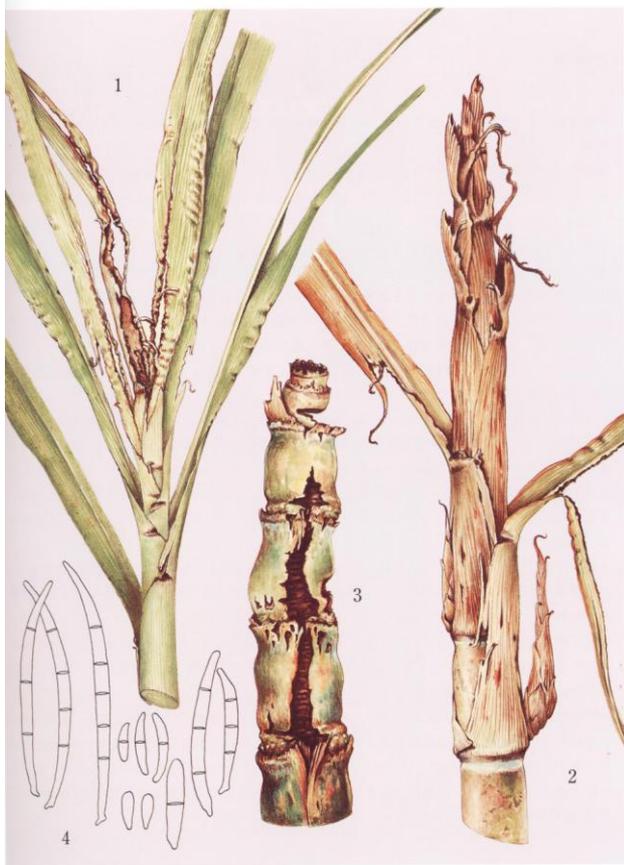
- ◆ Pineapple disease was found in most of the surveyed sugarcane areas, especially after planting sugarcane in the spring with long-term low temperature and rainy weather. The hardening of sugarcane fields due to improper water drainage and humid soil conditions aggravated the disease symptoms and accounted for severe losses to sugarcane.
- ◆ The seeds of the affected plants failed to sprout, the sprouting rate decreased, and caused different degree of losses of sugarcane production.



# Top rot disease

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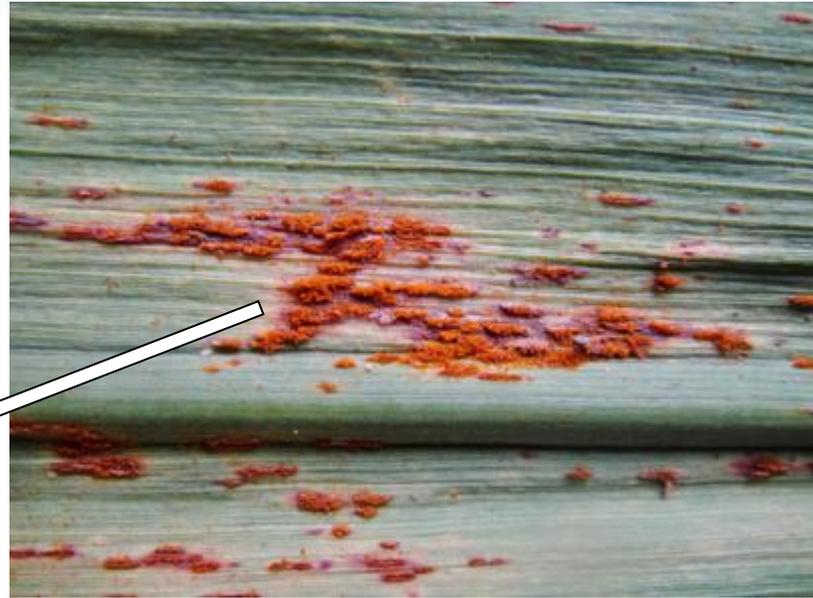
Top rot disease was found in almost all sugarcane growing areas in 2010. The incidence rate of top rot disease up to 40% with high humidity and high temperatures, and heavy application of nitrogen fertilizer would caused the disease serious damage.



# Rust disease

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- ◆ The rust disease was found with serious infection stage in some sugarcane varieties at Beihai, Guiping.
- ◆ The ROC89-1626 and GT02-963 were most affected by the disease, which mainly occurred during May to October.
- ◆ The incidence of rust disease was more than 80% and would appeared rust brown in color in field. The disease caused leaf wilting in early stages, and the plants became dwarf and grew weakly.



# Conclusions

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- ◆ 13 kinds of fungal diseases were found in this investigation.
- ◆ The serious diseases are smut, rust disease, top rot disease, pineapple disease.
- ◆ The controlling methods of the diseases are:
  - Resistant varieties;
  - Agriculture management;
  - Chemical control



Thank you for your attention

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