

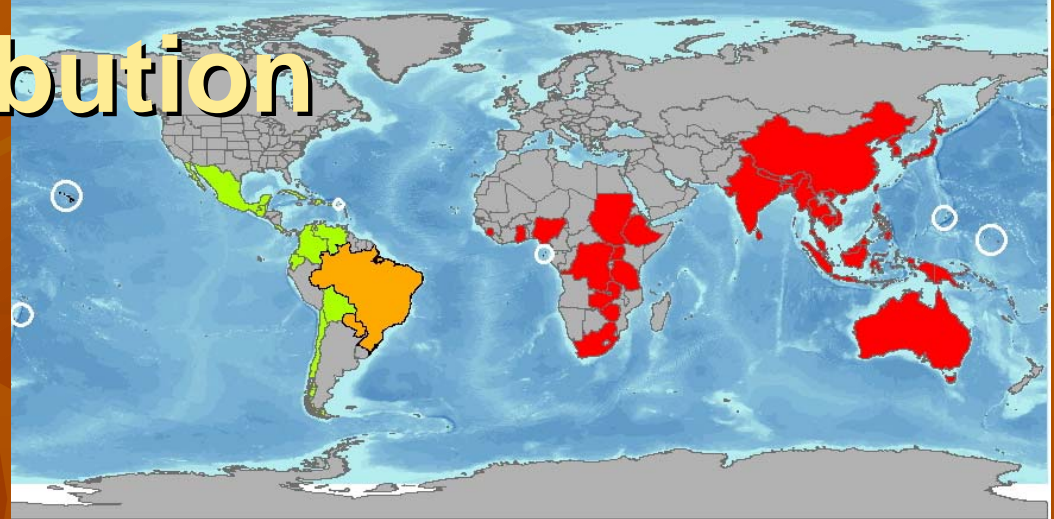
SOYBEAN RUST

*A collaborative plan to minimize effects
of an introduction on US growers*

Bob Spaide
PPQ – SEPPC
Riverdale, MD



Species of Soybean Rust and Distribution



- Two species:
 - *Phakopsora meibomiaae* – less aggressive species found throughout South and Central America and the Caribbean. Reported in Puerto Rico in 1976.
 - *Phakopsora pachyrhizi* – aggressive species of Australasian origin, now found in west and southern Africa and South America (Brazil, Paraguay, Argentina). Reported in Hawaii in 1995.

Hosts of Soybean Rust

LEGUMES

Cultivated Crops:

Soybeans, lima beans, butter beans, green beans, kidney beans, cowpeas, pigeon peas, yam bean (jicama).

Ornamental plants:

Hyacinth bean, lupine, royal poinciana

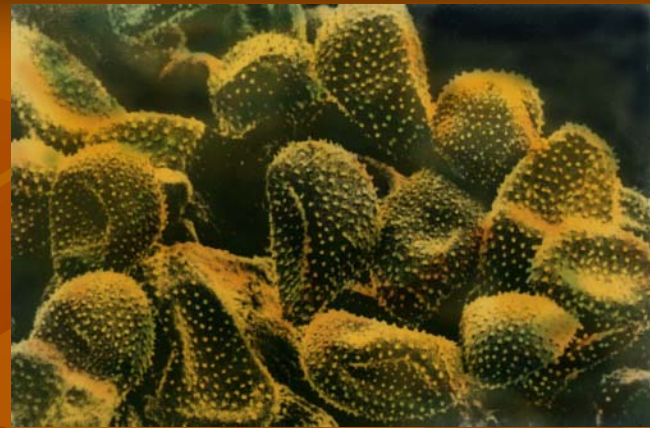
Wild hosts:

Kudzu, sweet clover



Kudzu infected with soybean rust

Spread of Soybean Rust



- Natural – by wind borne urediniospores produced in large quantities under optimum environmental conditions. Air currents from Africa are suspected of causing South American infestations.
- Artificial – movement of infected live plants, leave material, pods, and stems.

Soybean rust is not seed borne and the urediniospores are short lived.

Soybean Rust Workplan

- May 2002 – Ad hoc group assembled consisting of APHIS, ARS, CSREES, university researchers, industry, National Plant Board, and Dr. Clive Levy of Zimbabwe.
- Experiences in southern Africa and South America indicates spread is rapid preventing a traditional regulatory response or possibility of eradication.
- Introduction into continental US is likely and consequences damaging to growers without mitigation measures, i.e., resistant cultivars and fungicides.



Elements of the Soybean Rust Workplan

- Exclusion
- Outreach
- Technology
Development

Elements of the Soybean Rust Workplan

■ EXCLUSION

- **Risk Assessment** – pathways / import regulations
- **Agro security**
- **Tracking the spread internationally**

Elements of the Soybean Rust Workplan

■ OUTREACH

- **Detection** – symptomology information to state inspectors, extension, crop consultants, field scouts.
- **Identification** – diagnostic labs / PCR
- **Management Practices** – sentinel plantings and properly timed fungicide applications.

Elements of the Soybean Rust Workplan

■ TECHNOLOGY DEVELOPMENT

- **Fungicides** -(short term)
approval of several
candidates and application
techniques

- **Resistant varieties** - (long term)

2000 lines to screen, 5-10 yrs.

Fungicidal Control of Soybean Rust in Zimbabwe

Strip not protected by fungicide



Soybean Rust Pest Alert

on PPQ Emergency Programs Homepage