

2010 Soybean Mosaic Virus (SMV) Coordination Report

Univ. Nebraska/George Graef

allele	source
<i>Rsv4</i>	Essex isolate
<i>Rsv1-h</i>	Suweon 97

justification

- _95% of Nebraska fields infected with BPMV
- _Double infection with SMV results in synergistic virus symptoms

outcomes

- _Variety development
- _SMV resistant lines entered into the 2010 Northern prelims

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North Dakota SU/Ted Helms

allele	recurrent parent	traits
<i>Rsv4</i>	ProSoy	0.8 RM for the specialty-tofu market
	Sheyenne	0.8 RM, conventional for the general-use market

approach

_Backcrossing *Rsv4* gene

_MAS using Satt542 and Satt558 to identify F₂'s for backcrossing

_Will screen BC3F2 with SMV with Dr. Berlin Nelson

outcomes

_SMV resistant public germplasm release in early maturity germplasm

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Virginia Tech/K.M. Rainey

alleles

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Rsv4

Rsv1

outcomes

_Variety development: RM 4.5-5.5, conventional, food-grade

_SMV resistant lines (*Rsv4*) will be entered into the 2010 Southern prelims

additional work

_Conduct SMV screening nursery annually for Southern prelim test with Dr. Sue Tolin

_Demonstrated lines severely susceptible in 2008 and 2009

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Virginia Tech/et al.

Research

_K.M. Rainey + Sue Tolin

_Preparing for an allelism test for a potential new gene or allele for resistance to SMV

_Results from extensive observational study of seed coat mottling in food-grade germplasm infected with both SMV and BPMV, separately

_M.A. Saghai Maroof

_Fine-mapping *Rsv4*

_ *Rsv1*, *Rsv3*, and *Rsv4* pyramided lines

_ *Rsv1-n* allele in PI 507389 conditions a lethal necrosis | 1:30 Tuesday: “Soybean mosaic virus resistance genes and their interactions”

_Screen three gene pyramided lines with BPMV

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Auburn/Ed Sikora and John Murphy

Research

We have conducted a survey of viruses in soybean in Alabama for the last three years. In 2007 and 2008, no SMV was detected (of course that does not mean it was not present in the state- we just did not find infected samples). In 2009, ~48% of the fields from which samples were collected had SMV. Fields with the highest incidence of SMV occurred in central and southwestern counties.