Billet Planting, Seed Treatments, Mosaic, and More?!!?

Jeff Hoy

Plant Pathology and Crop Physiology

Billet vs. whole stalk tonnage yield

	Percent loss in billets compared to whole stalk				
	Plant cane	1st stubble	2nd stubble	Crop cycle	Loss/cycle (tons)
Average	-14	-7	-6	-9	-11 tons
Range	-47 to +8	-35 to +14	-44 to +12	-42 to +7	-44 to +8

(51 comparisons, 14 varieties, 17 seasons)

What have we learned?

- **Billets suffer more from any problem**
- **Varieties vary in tolerance**
- **Planting date not critical**
- **Less physical damage desirable**
- **Need more seed, but not too much**
- **Cost similar now, but risk still greater**
- **Good planting critical**
- **Some level of lower yield probable**
- **Potential options to improve stands and yield**

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Whole stalk vs. billet planting stalk populations at Rivets during 2015

Variety	Whole stalk population (x1,000)	Billet population (x1,000)
HoCP 00-950	53.1	50.4
L 01-283	58.1*	51.9
HoCP 04-838	57.9	58.9
HoCP 04-838	51.6	52.4
L 01-299	47.7*	42.1
HoCP 96-540	50.1	51.7
HoCP 96-540	41.4	42.9
L 01-283	45.9	43.0
L 01-283	51.0	49.4
L 01-283	52.9	51.9

Louviere planter at Rivets in 2014

Loooong billets

Benoit double-drill 8’ planter

Lanaux/Big D Farms

Costa Rican/Traube 3-row billet planter

Bubenzer

ASCL Louviere Billet Planter

First use of funnels

Planting Method Test 2015

Double-drill billets

Open-furrow billets

Seed treatment chemical test St. Gabriel 2014

Treatment	Tons of cane per acre
Non-treated billets	39.3
Non-treated whole stalks	47.2 (+7.9)
Uniform dip	46.7 (+7.4)
Dynasty dip	44.3 (+5.0)
Cruiser dip	52.3 (+13.0)
Uniform + Cruiser dip	53.6 (+14.3)

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In-furrow spray applications were not significant

Seed treatment chemical test St. Gabriel 2015

Treatment	Tons of cane per acre
Non-treated billets	34.5
Non-treated whole stalks	47.8 (+13.3)
Cruiser	42.5 (+8.0)
Dynasty	40.2 (+5.7)
Uniform	42.0 (+5.5)
QuiltXtra	51.0 (+16.5)
Cruiser + Dynasty	47.5 (+13.0)
Cruiser + Uniform	49.5 (+15.0)
Cruiser + QuiltXtra	53.0 (+18.3)
Pinesol	28.2 (-6.3)

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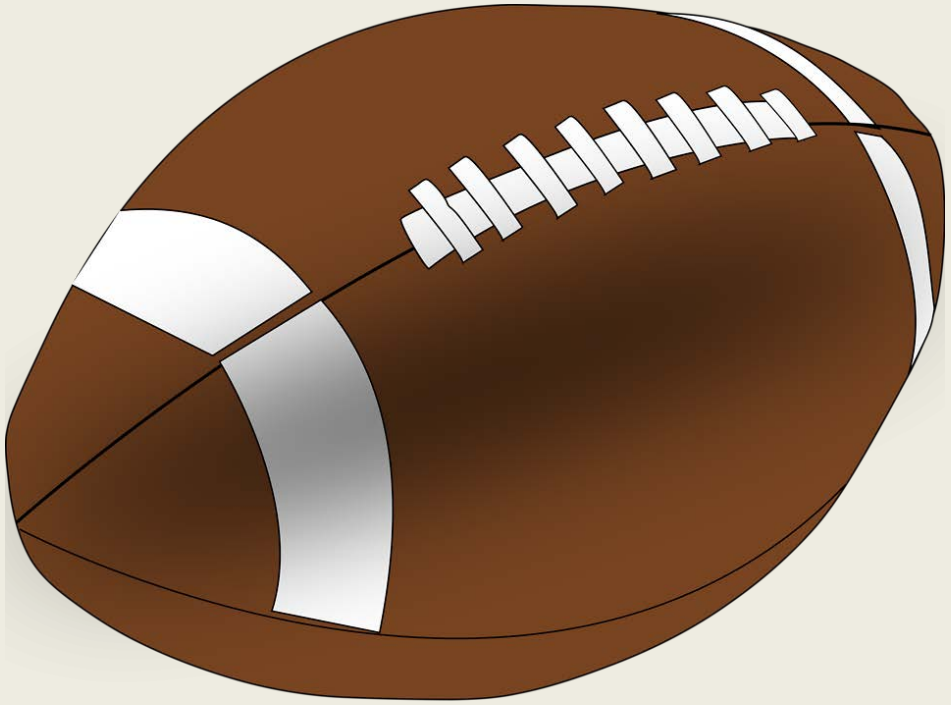
Mosaic

SCMV & SrMV strains

Why the interest in mosaic?

- Several recent advanced selections have become infected
- Recent virus surveys have detected unidentifiable strains
- History

Mosaic game plan



Mosaic game plan

1. Survey to determine prevalence, distribution, and diversity of mosaic
2. Inoculations of breeding program germplasm

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If you see it, let us know

Brown rust will probably return in 2016

Variety Brown Rust Ratings

Variety	Brown rust rating
LCP 85-384	Highly susceptible
HoCP 85-845	Susceptible
HoCP 96-540	Highly susceptible
L 99-226	Susceptible
L 99-233	Resistant
HoCP 00-950	Moderately resistant
L 01-283	Susceptible
L 01-299	Resistant
L 03-371	Susceptible
HoCP 04-838	Resistant
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Fungicide Options

Fungicide	Rate range (oz per acre)
Headline	**9-12**
Priaxor	**5-7.5**
Quilt Xcel	**16-20**

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Where will fungicide be needed?

- Susceptible variety
- Plant cane
- Light textured soil
- High fertility

When to apply fungicide

- Infection evident on older leaves and beginning on young leaves of plants with more advanced growth
- Infection developing from late March to early June

Band the application