Billet Planting Updates

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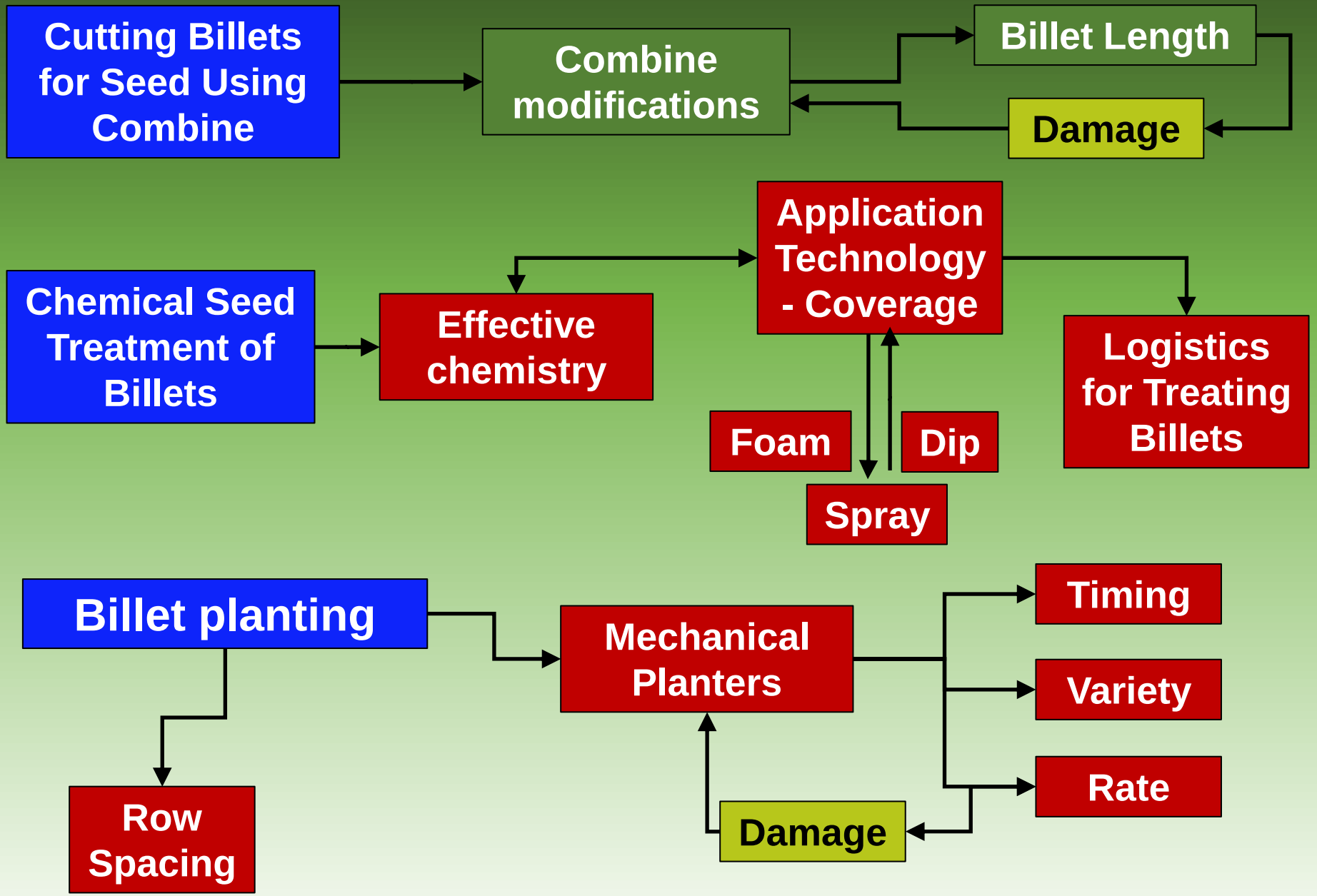
Billet planting

Advantages

Faster planting rate.
Ease of planting lodged cane.
Less labor required.

Disadvantages

More seed cane needed to plant.
Longer establishment may reduce plant-cane yield.
More stalk rind damage invites disease.


Cutting Billets for Seed Using Combine
Combine modifications
Billet Length
Damage
Chemical Seed Treatment of Billets
Effective chemistry
Application Technology - Coverage
Logistics for Treating Billets
Foam
Dip
Spray
Billet planting
Row Spacing
Mechanical Planters
Timing
Variety
Rate
Damage

Chemical Seed Treatment Tests



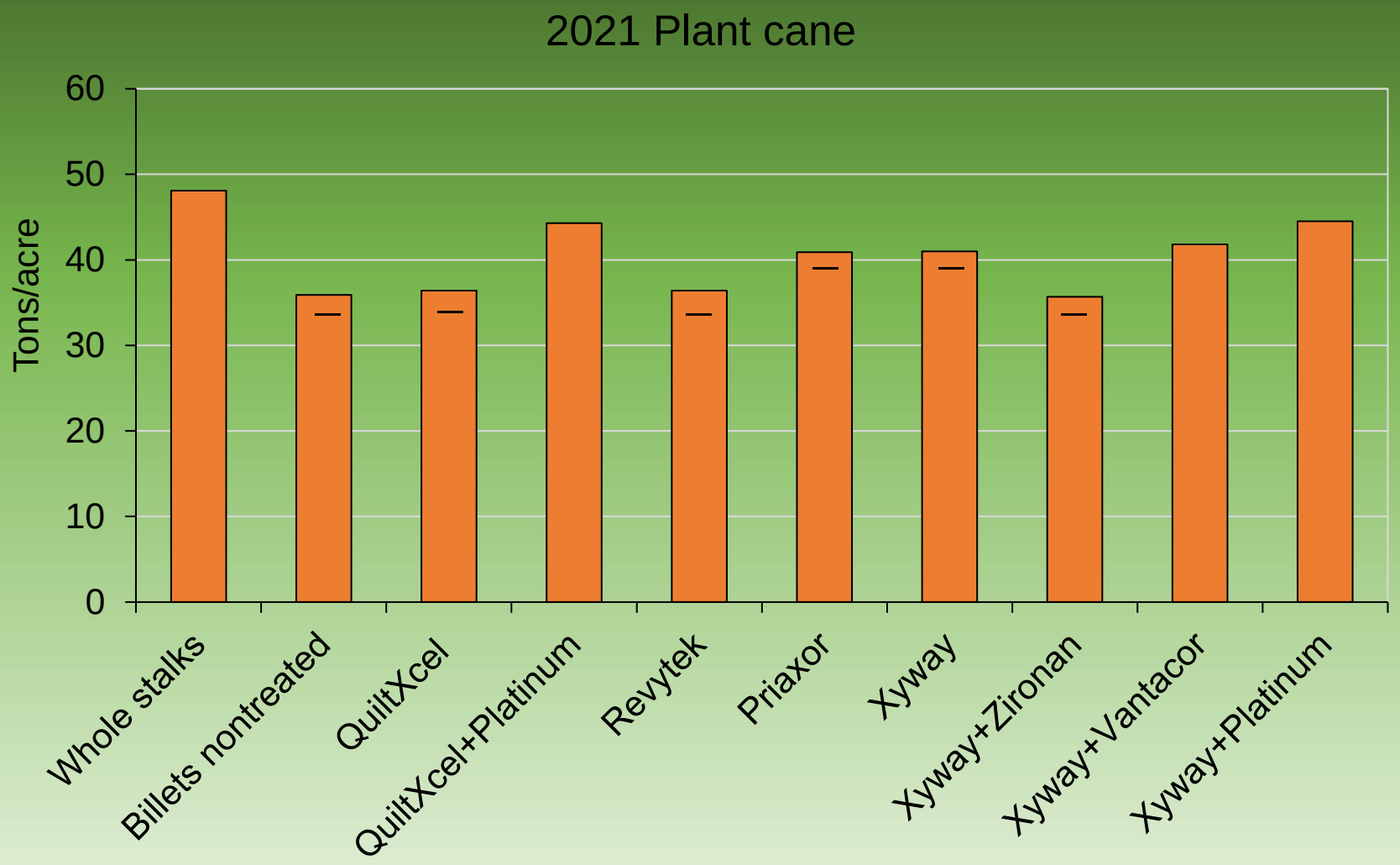

- **Began tests in 2014.**
- **Billets cut with combine to 18-24” in length.**
- **Hand sorted to remove short or severely damaged billets.**
- **Dip-treated in solutions containing fungicide and/or insecticide.**
- **Allowed to dry overnight before planting.**

2021 Chemical Seed Treatment

- **Whole stalks (not treated)**
- **Billets (not treated)**
- **Quilt Xcel,** azoxystrobin + propiconazole (fungicides)
- **Quilt Xcel + Platinum**, thiamethoxam insecticide
- **Revytek,** pyraclostrobin + fluxapyroxad + mefentrifluconazole fungicides
- **Priazor**, fluxapyroxad
- **Xyway,** flutriafol fungicide
- **Xyway + Zironan,** biological fungicide/nematicide*
- **Xyway + Vantacor,** Chlorantraniliprole
- **Xyway + Platinum**

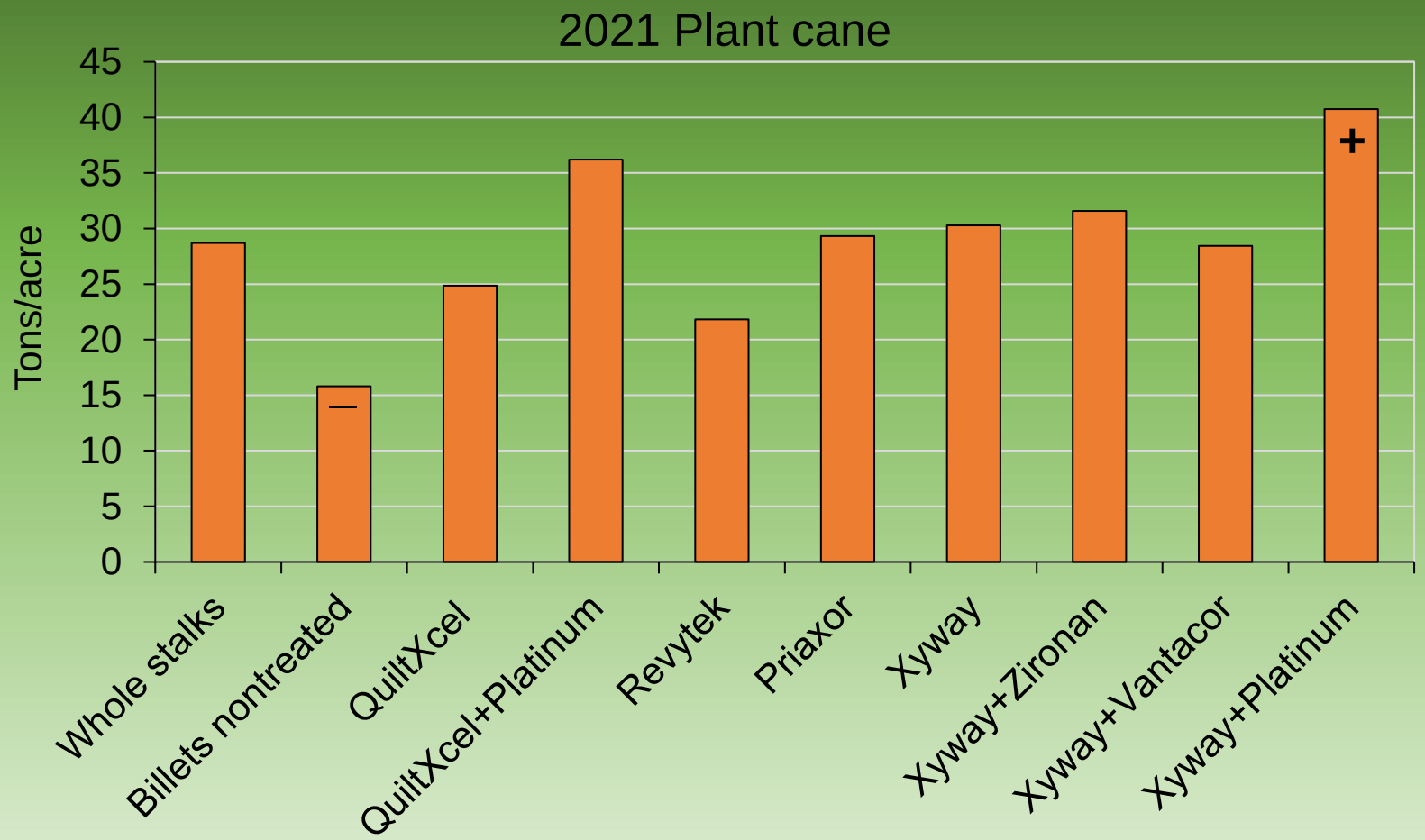
**Bacillus licheniformis* and *Bacillus subtillis*

Chemical Seed Treatment – St. Gabriel



*Bars with '+' or '-' are statistically different from the non-treated whole stalk seed source at the P<0.05 level.

Chemical Seed Treatment - Houma



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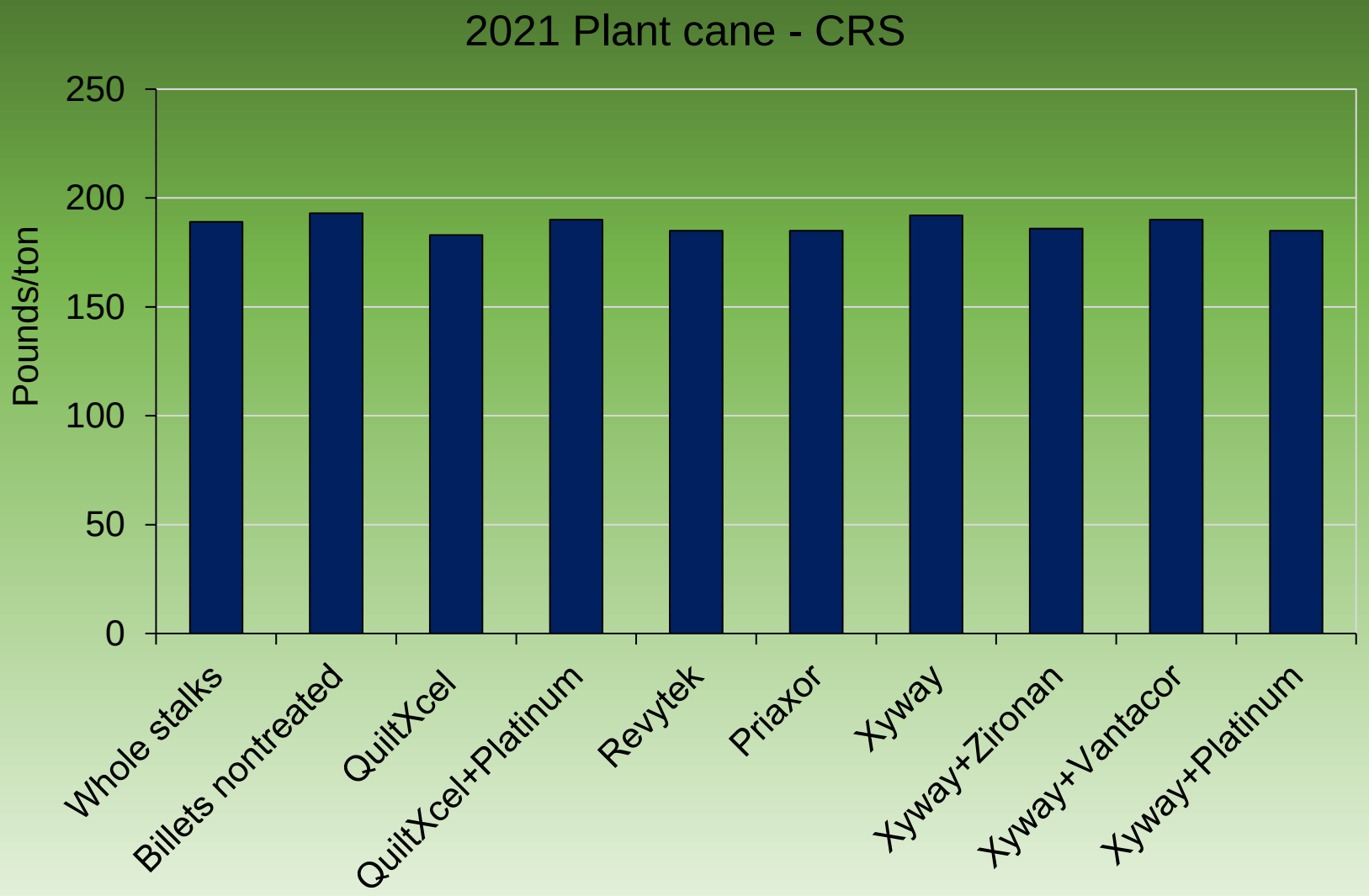
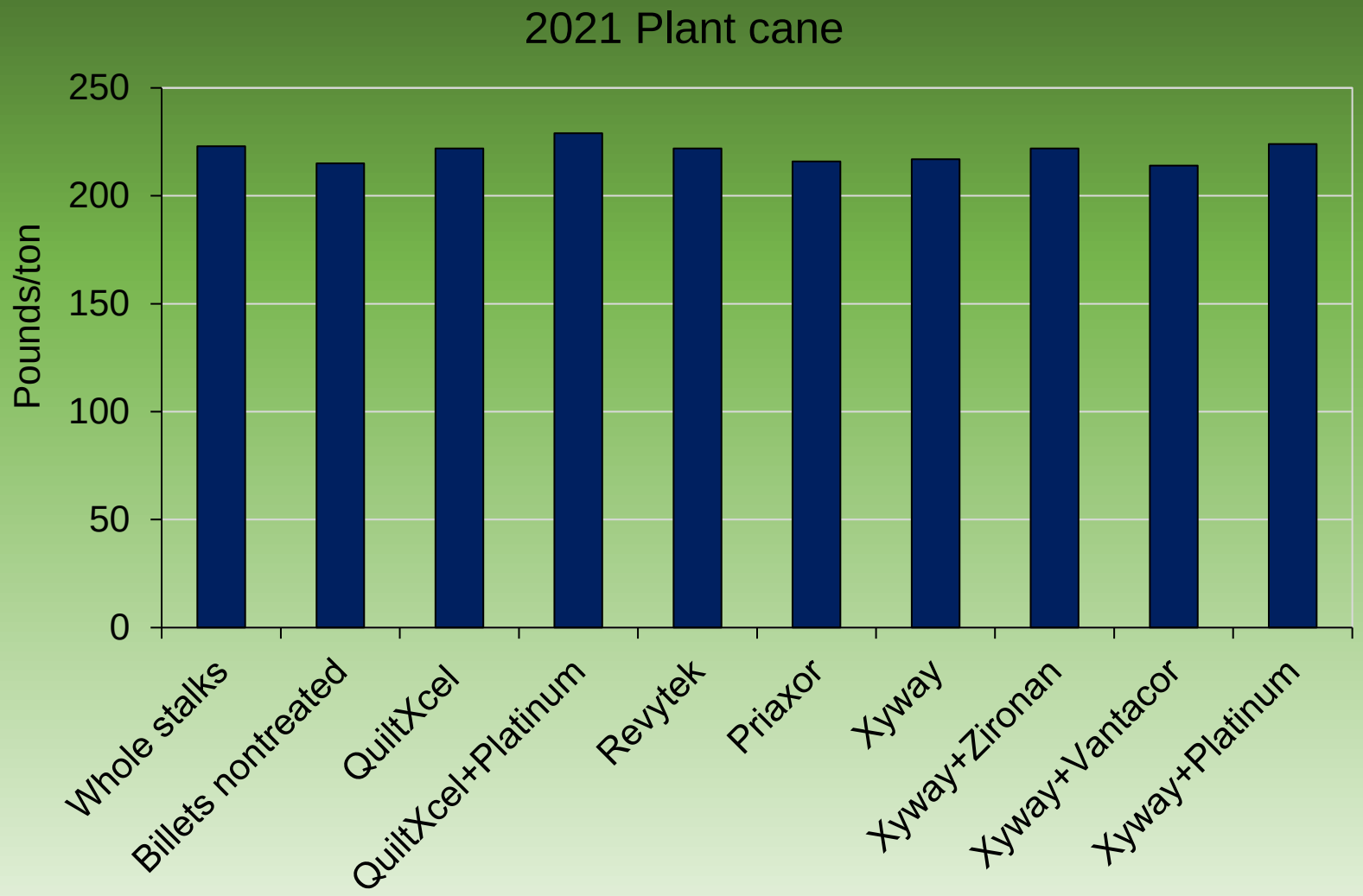
Chemical Seed Treatment – St. Gabriel



*Bars with the same letter are not statistically different at the P<0.05 level.

Chemical Seed Treatment - Houma



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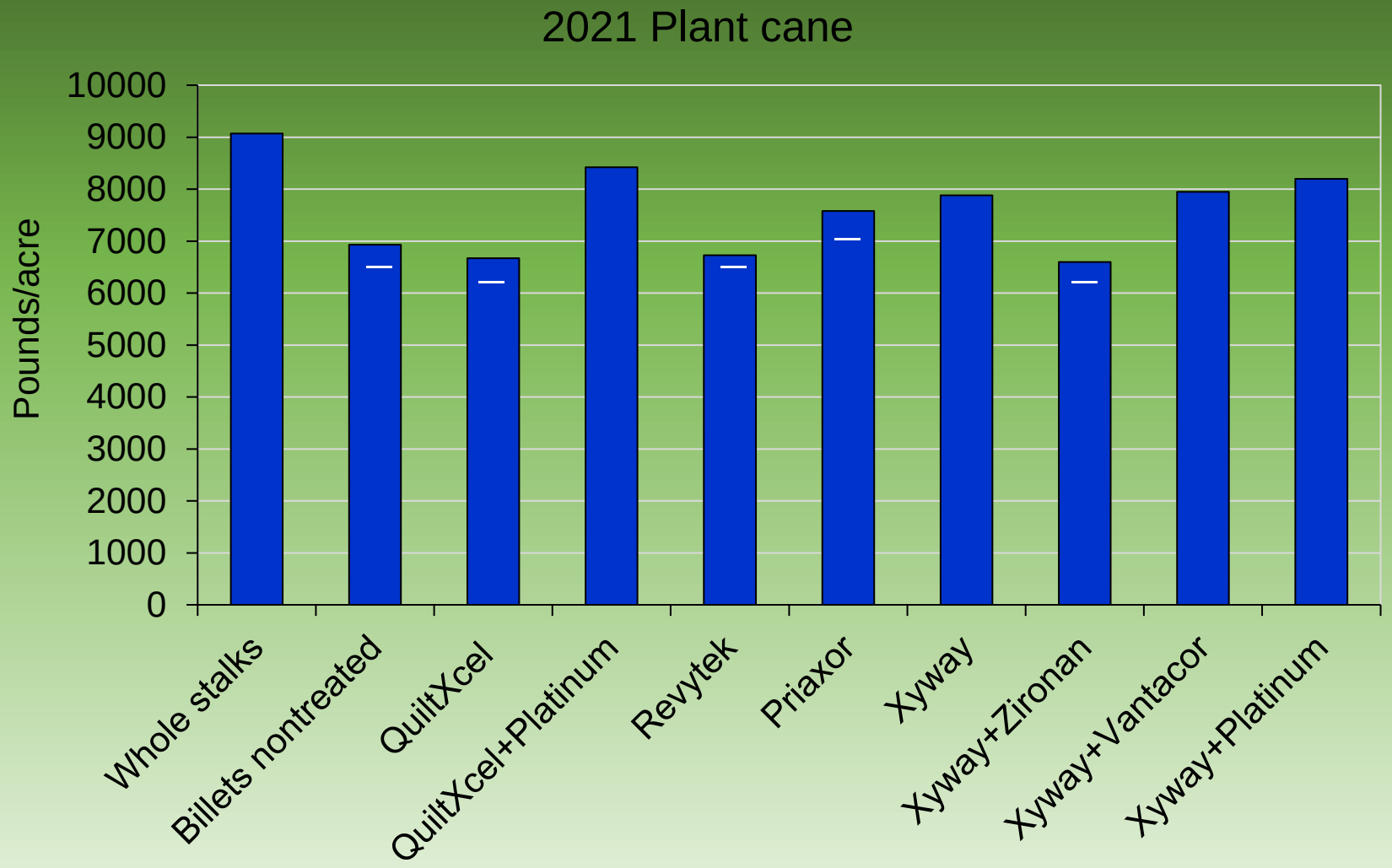
Chemical Seed Treatment – St. Gabriel



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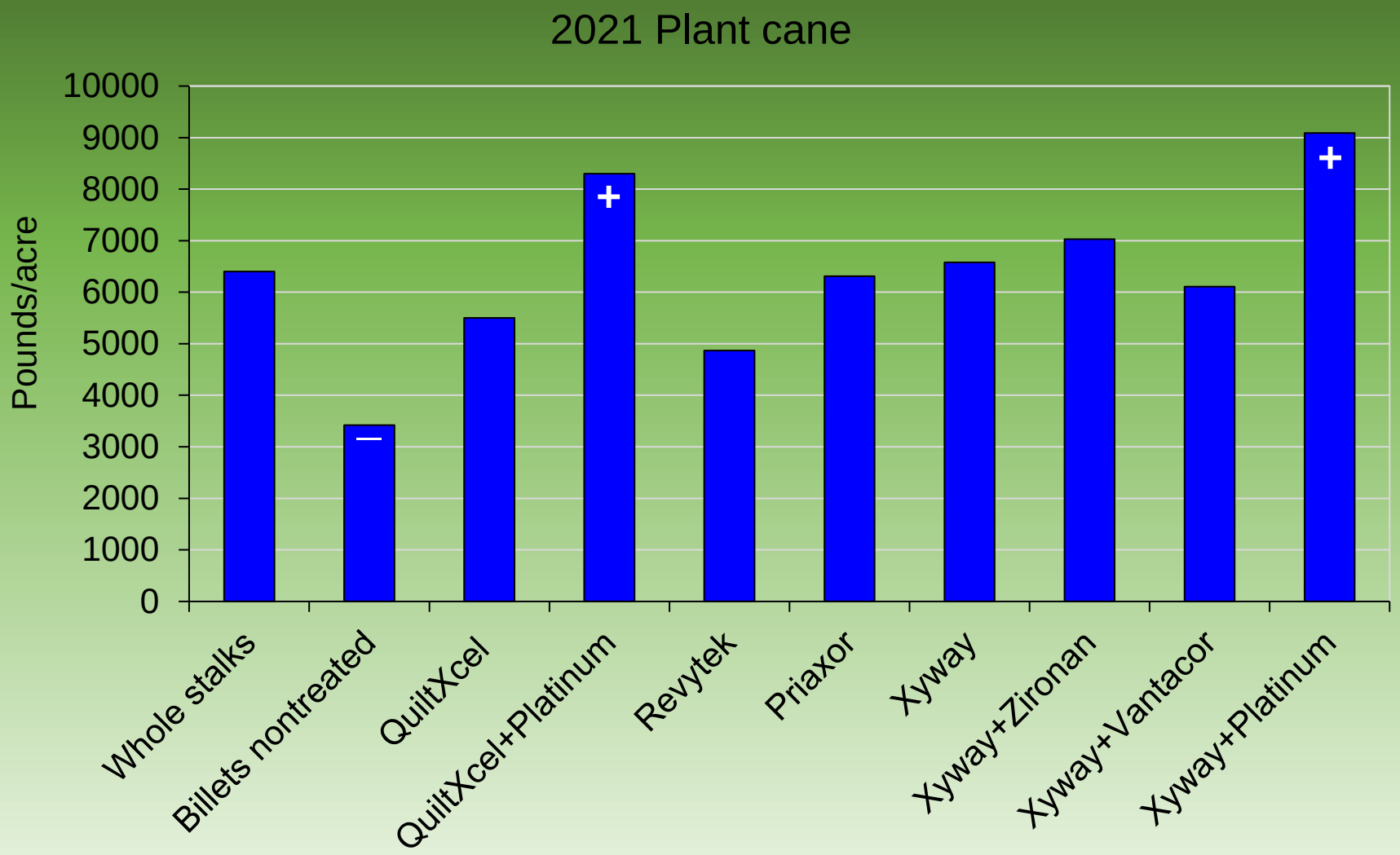
Chemical Seed Treatment - Houma



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Cultural Practices Approaches for Billet Planting Success

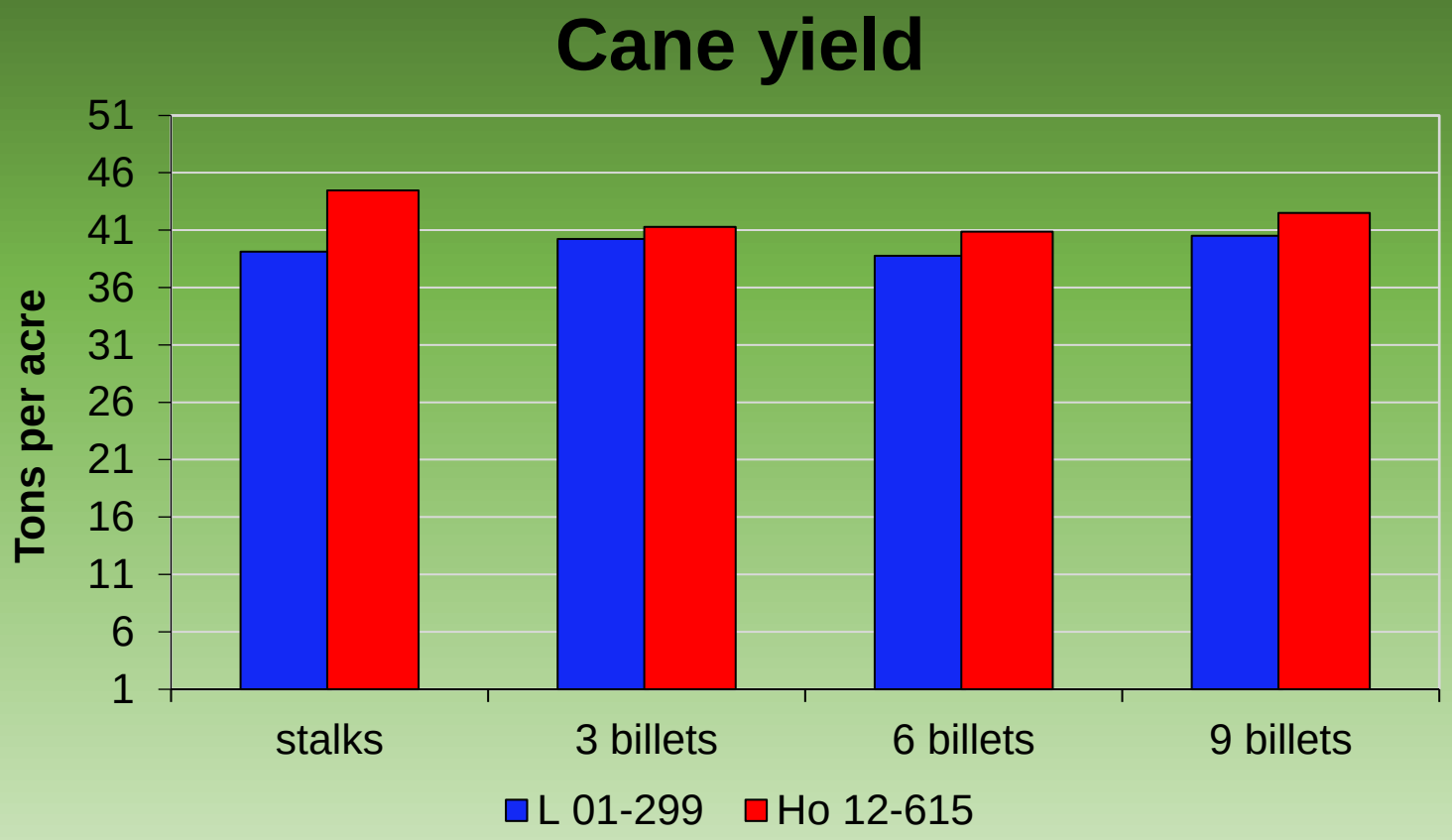
	Whole Stalk (H)	Whole Stalk (M)	Billets
Planting Expenses[1]	**$220**	**$190**	**$160**
Labor cost	$75 (34%)	$50 (26%)	$25 (16%)
Seed cane harvest cost[2]	**$16**	**$26**	**$53**
Ratio	8:1	5:1	3:1

LSU AgCenter (Deliberto and Hilbun), (1) Allocation of planting costs, No. 2018-36; (2) Sugarcane projected costs and returns, No. 332, January 2019;

Seed rate by Cultivar Test

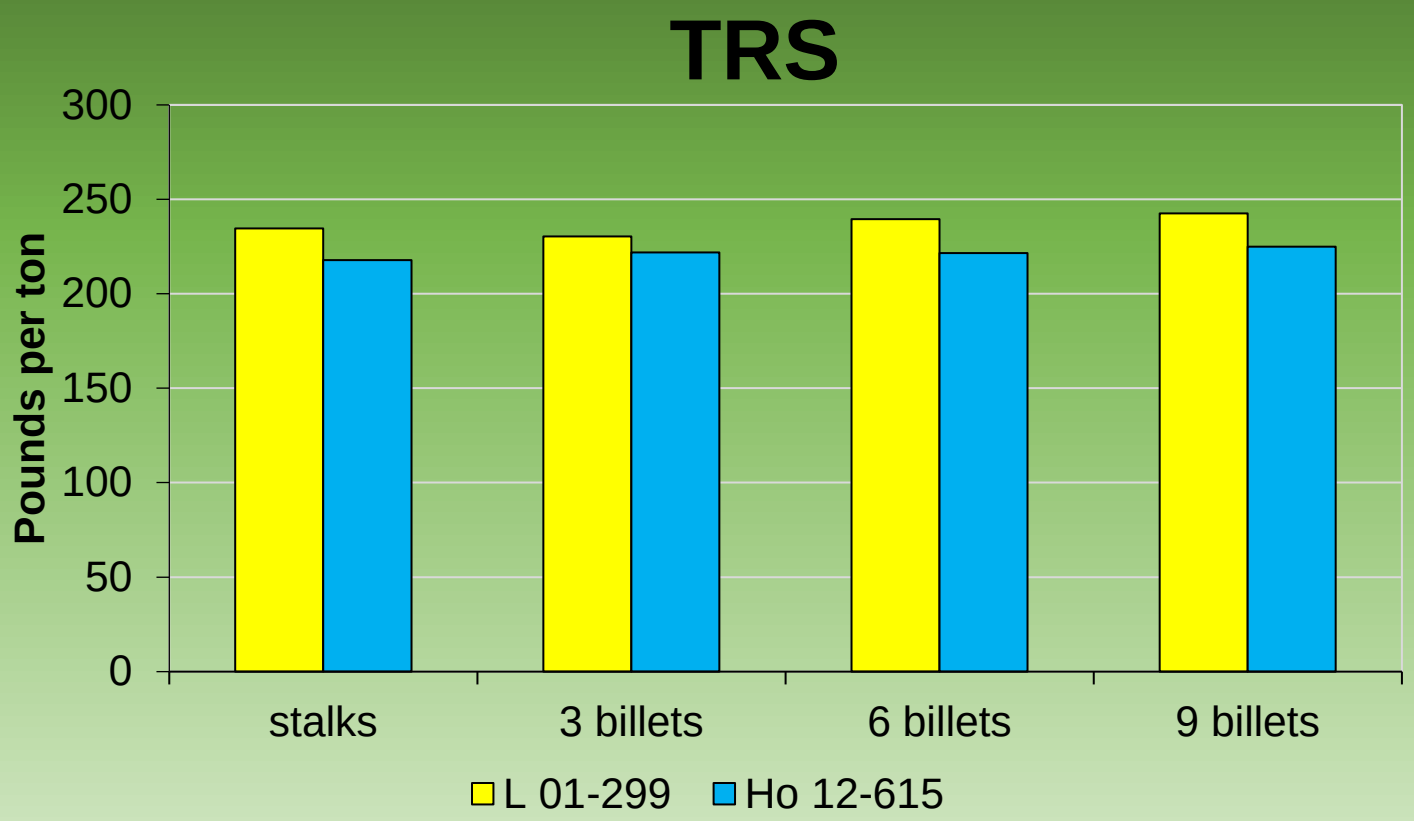
- L 01-299 and Ho 12-615.
- 3 whole stalks, or 3, 6, or 9 24” billets.
- Not chemically treated.
- Silt loam soil.

Two years of plant cane data



***No statistical differences were observed between cultivar and rate of planting.**

Two years of plant cane data



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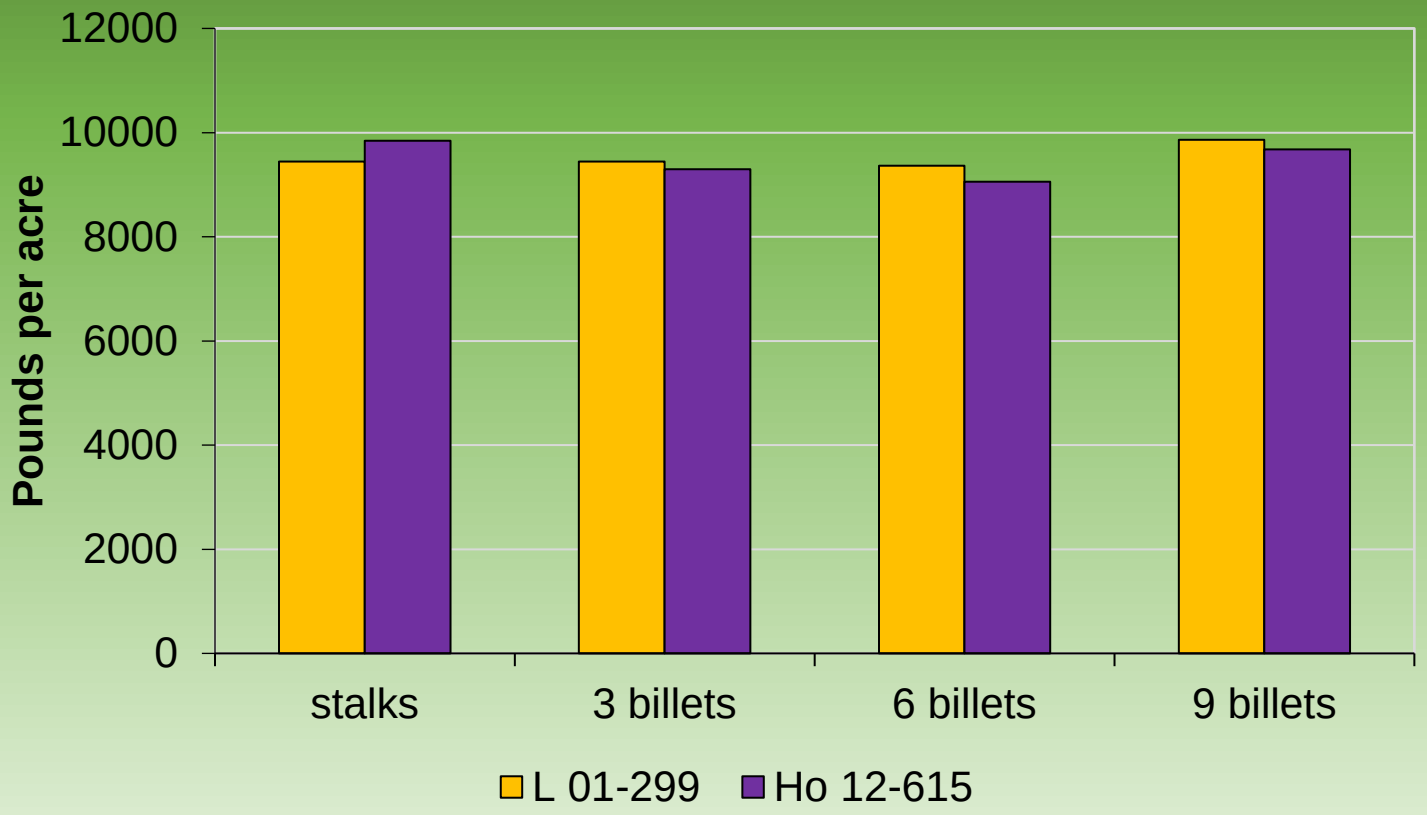
Two years of plant cane data

Sugar yield



***No statistical differences were observed between cultivar and rate of planting.**

Date of Planting x Seed Source Test

- L 01-299, HoCP 09-804, and Ho 12-615.
- 3 whole stalks, or 3 billets.
- Planted in August, September, or October.
- Not chemically treated.
- Silt loam soil.

Plant cane and first ratoon

	Tons/acre*	Pounds/ton*	Pounds/acre*
Variety			
L 01-299	39.7 a	204 c	8,060 a
Ho 12-615	40.2 a	210 b	8,430 a
HoCP 09-804	31.7 b	218 a	6,910 b
Seed			
Whole stalk	35.3 b	210 a	7,410 b
Billets	39.0 a	211 a	8,200 a
Planting date			
August	34.5 b	213 a	7,130 b
September	37.3 ab	211 a	7,820 ab
October	39.8 a	213 a	8,460 a

*Means in a column for each main effect with the same letter are not statistically different at the P<0.05 level.

2023: Planned “outfield” style billet test – with help from Dr. James Todd and Mr. Edwis Dufrene in to include current dominant commercials (L 01 299, HoCP 14-885) and 2020 experimentals (20-501, 20-513, 20-521, 20-527, 20-535, 20-558, 20-560, 20-568, 20-570) planted as whole stalks and billets. Goal is to add a billet tolerance measurement to variety selection.

Takeaways

- Fungicide + insecticide remains highest yielding chemical treatment. But with no platinum label, chemical seed treatment future uncertain.
- Planting billets later improved plant-cane and first-stubble yields.
- Seed quality is very important – includes combine to wagon to planter to row. Minimize damage and use best quality seed.
- Current varieties may be more tolerant to billet planting than historical varieties.

Acknowledgments

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Thank you for the invitation.

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