



Stand Establishment

“Foundation for Success”



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Stand Establishment

Challenge: Increase Plant Population on Fields With Less Than 170 Beets.

Result: Increase Stands on 47% of Fields

Benefit: Increased Revenue on 235,000 acres (just an increase from 160 to 170 stand) = \$8,149,800.

Focus: Grower Education:

- Increase Planter Test Stand Use
- Proper Seedbed Preparation
- Proper Seed Spacing Selection
- Ag Notes, DTN, Internet, One-on-One



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**What's 10 more beets per
100 ft of row worth?**

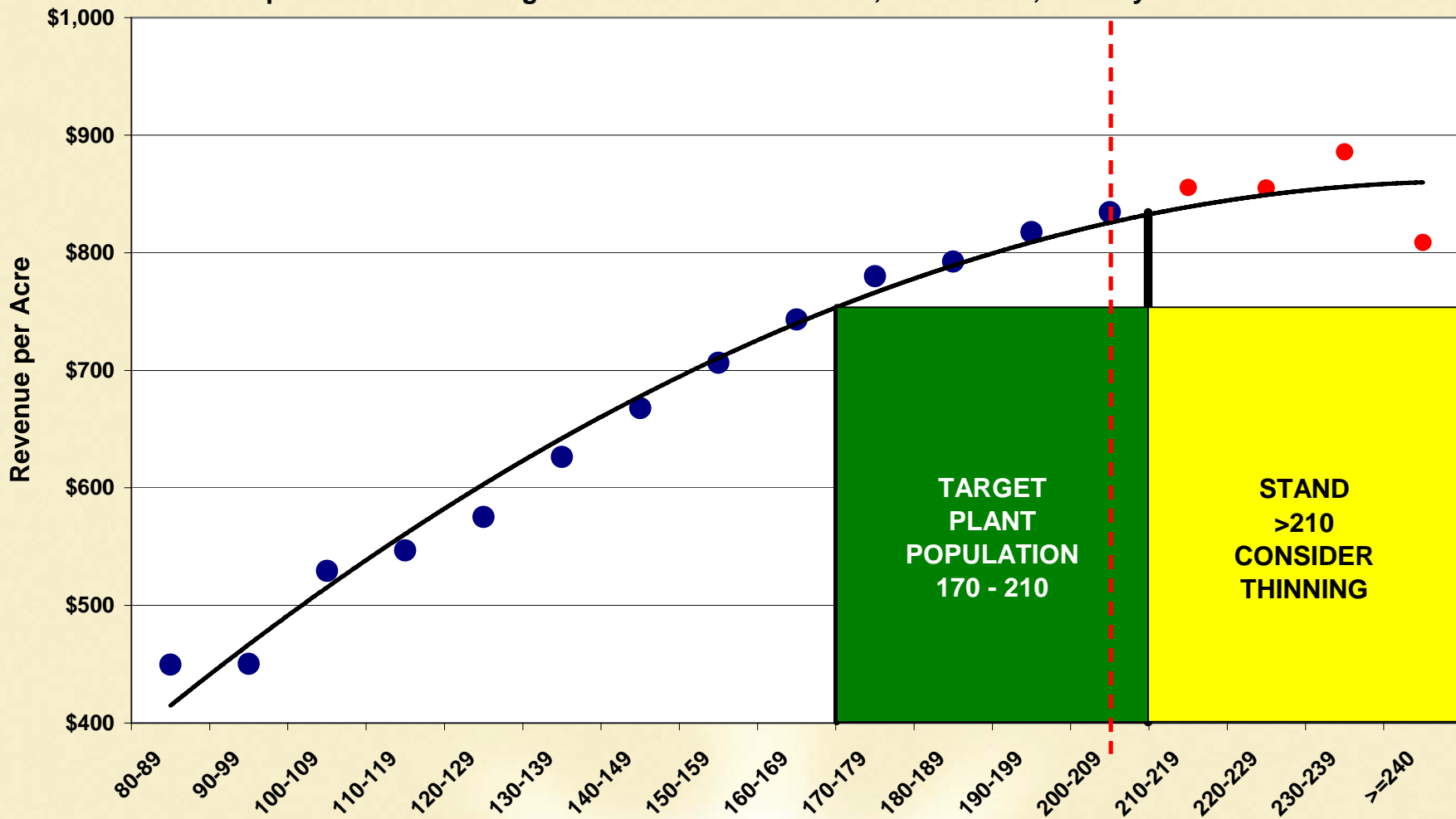
\$34.68 per acre



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Revenue Per Acre vs. Stand Counts
5 Year Summary (01-05)

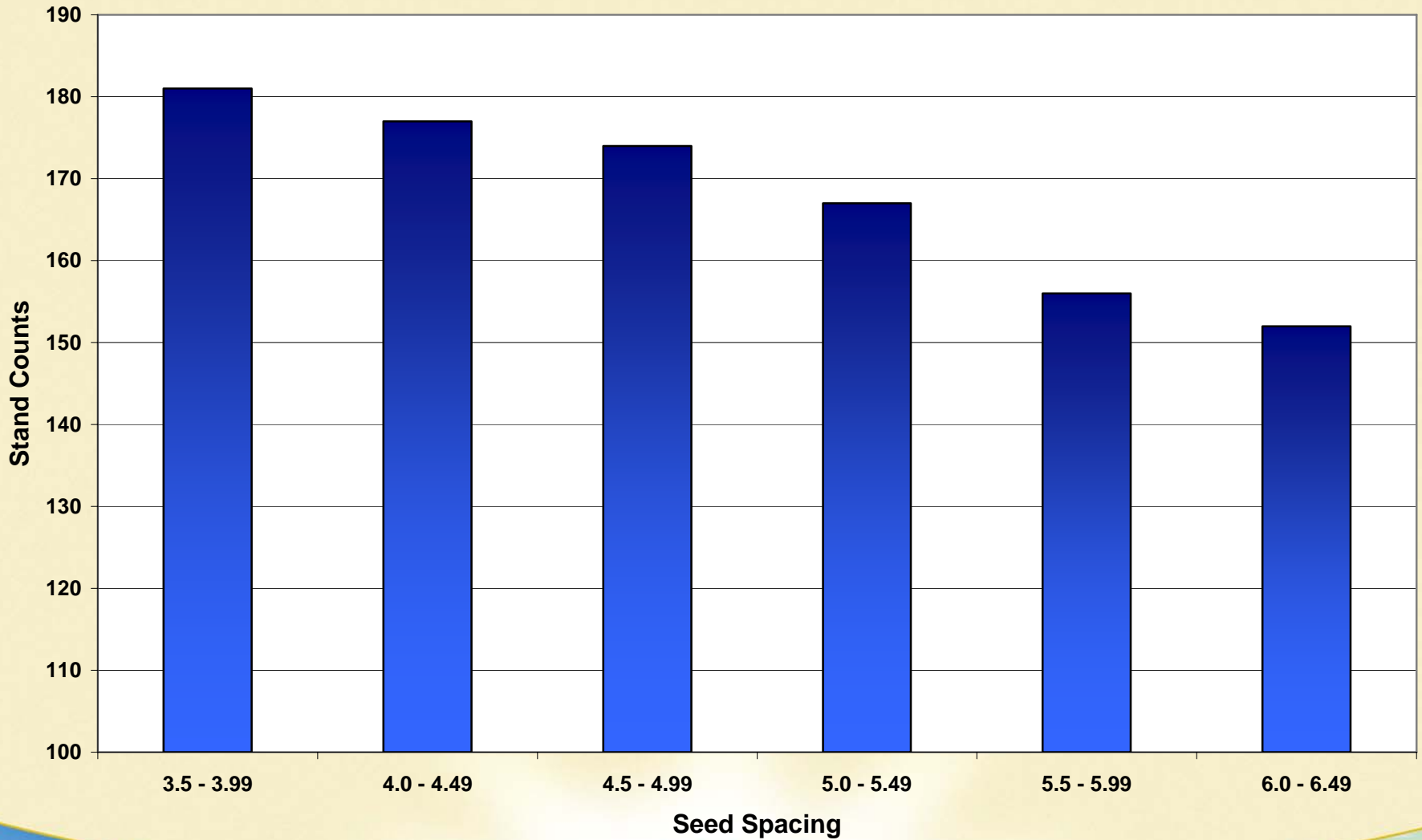
Representative Growing Unit with Harvest Acres>0, Net Tons>0, and 8<yield<35



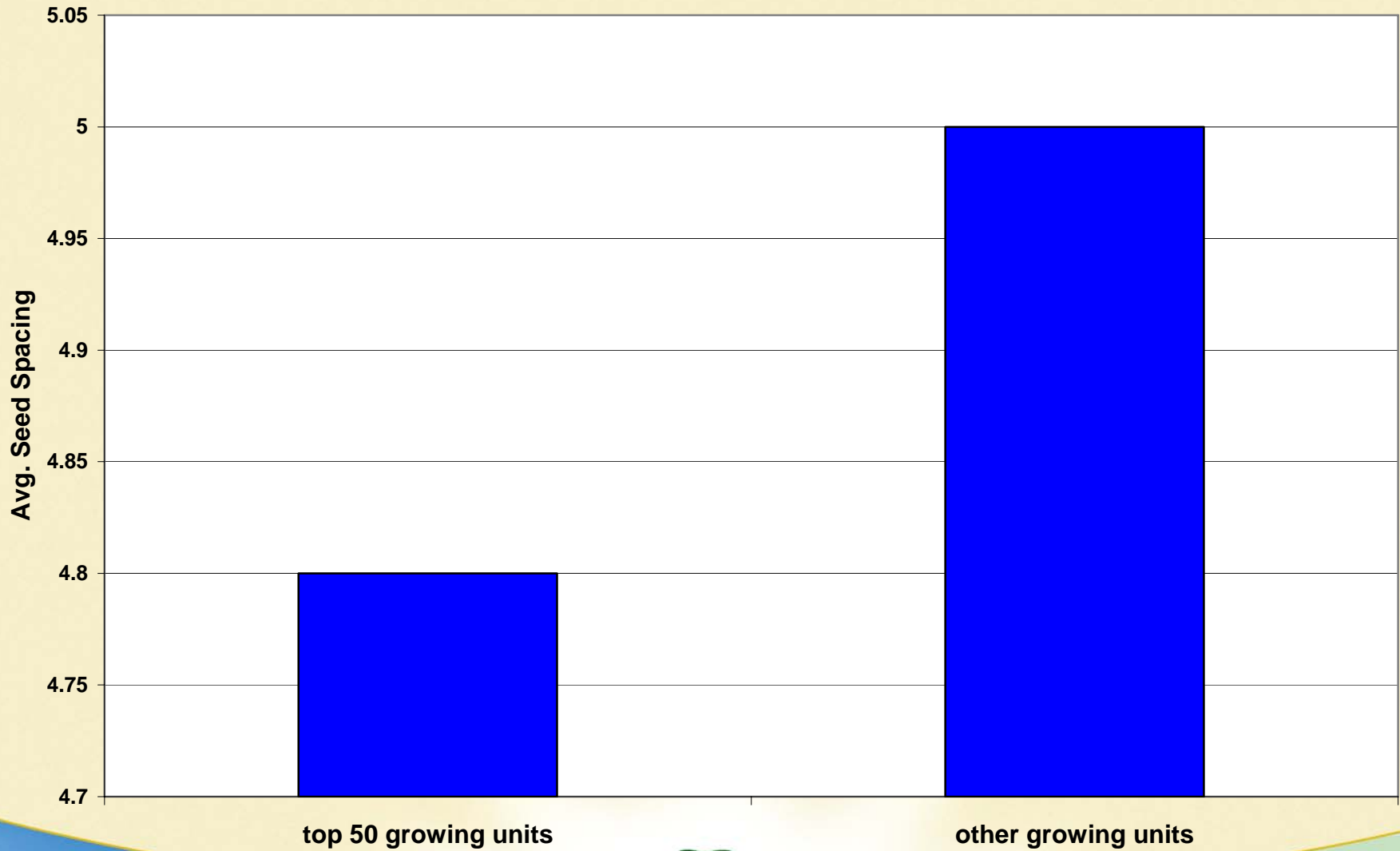
Stand count



Seed Spacing vs Harvested Stand Counts
5 Year Summary (2001 - 2005)
Summarized by Growing Units



Average Seed Spacing



Stand establishment success

- Planter inspection and maintenance
- Proper seedbed preparation
- Choice of the right seed spacing for each field and variety



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Check your Planter out!

- Have your planter checked out on the planter test stand
- Replace worn parts-check cut offs and star wheels on plate planters
- Check seals and plates on vacuum planters
- Check the effects of speed on your planter (ideal speed 3-4.5 mph)

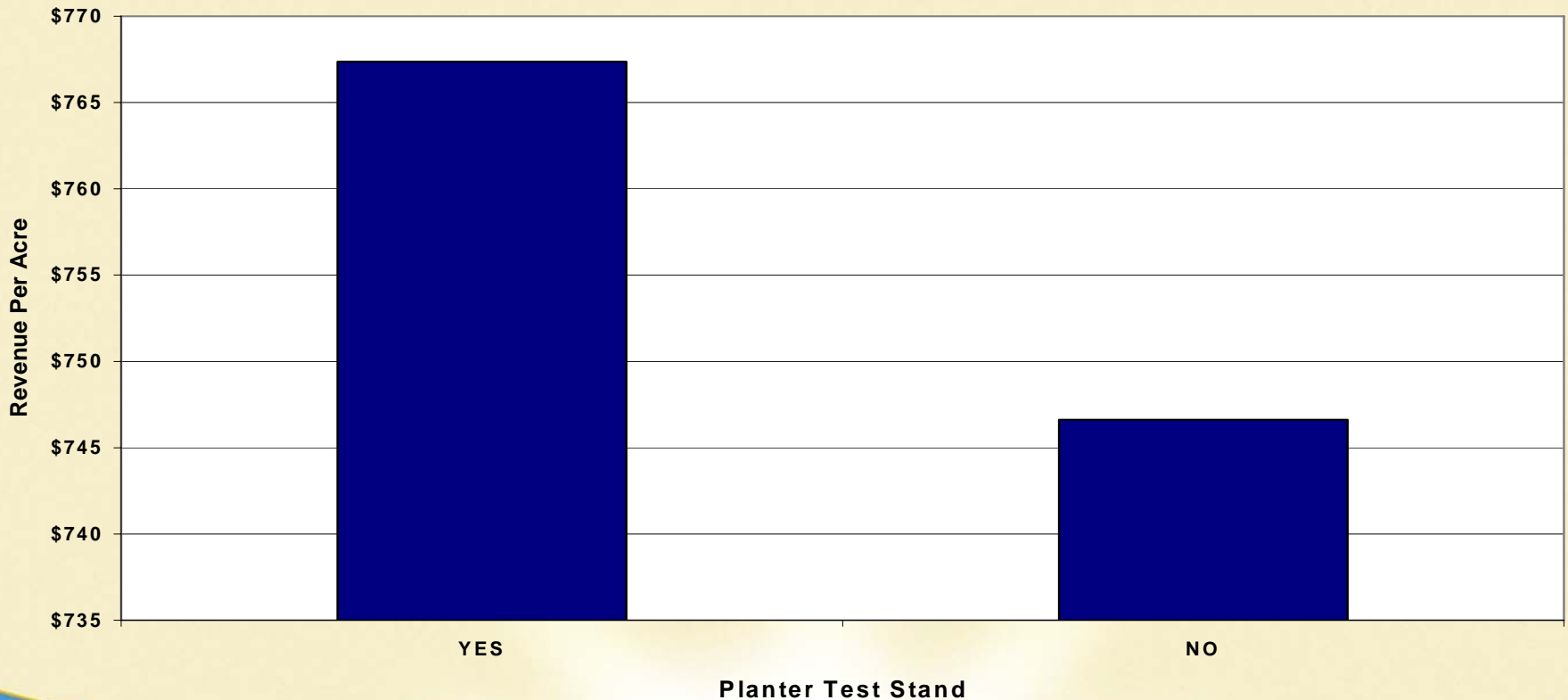


Planter test stand Clinic



It pays to check your planter

Revenue Per Acre - 5 Year Average
Planter Test Stand vs Non Planter Test Stand



Fall tillage which meets several objectives



- * **Mixing of plow depth soil**
- * **Incorporation of previous crop so soil erosion is prevented but excess residue does not reduce stand establishment**
- * **Incorporation of required fertilizer and/or herbicides**

Seedbed Preparation



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Seedbed Prep

- Work soil as shallow as possible to conserve moisture
- Have a firm seedbed to insure good seed to soil contact.
- Do not work soil ahead more than you can plant in a day
- Field shaping, drainage and leveling may pay back huge benefits to the eventual surviving stand from the effects of disease and water problems. (see drainage fact sheet)
- Consider the use of cover cropping with a cereal grain for wind protection.



- **Spring tillage should loosen the top 1-3 inches of topsoil and repack it**







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How fast do beets emerge?

Soil Temperature

38-45° F

45-52° F

52-60° F

60-70° F

Days to Emergence

21 days or more

10-21 days

7-12 days

5-7 days

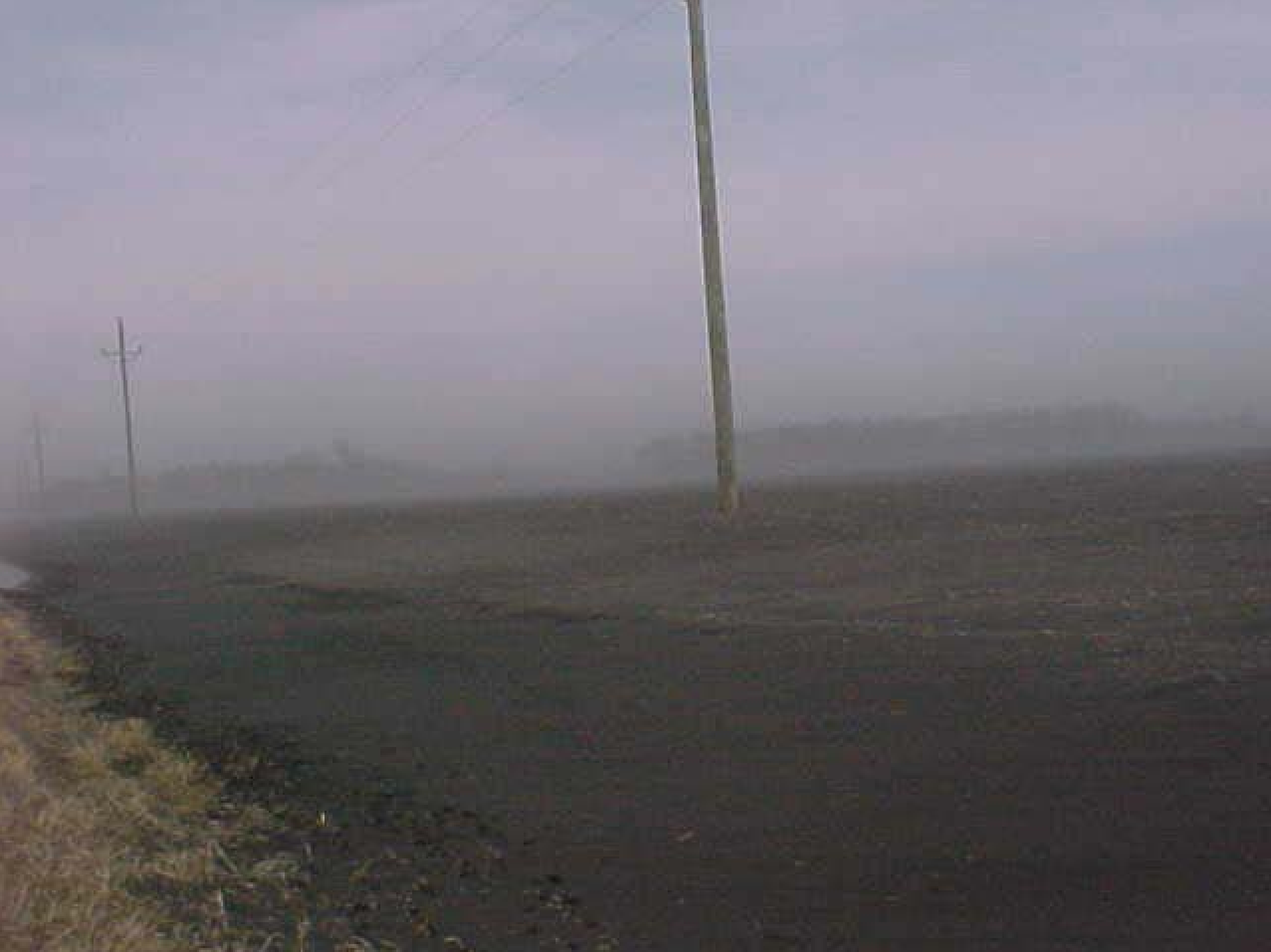




Wind damage



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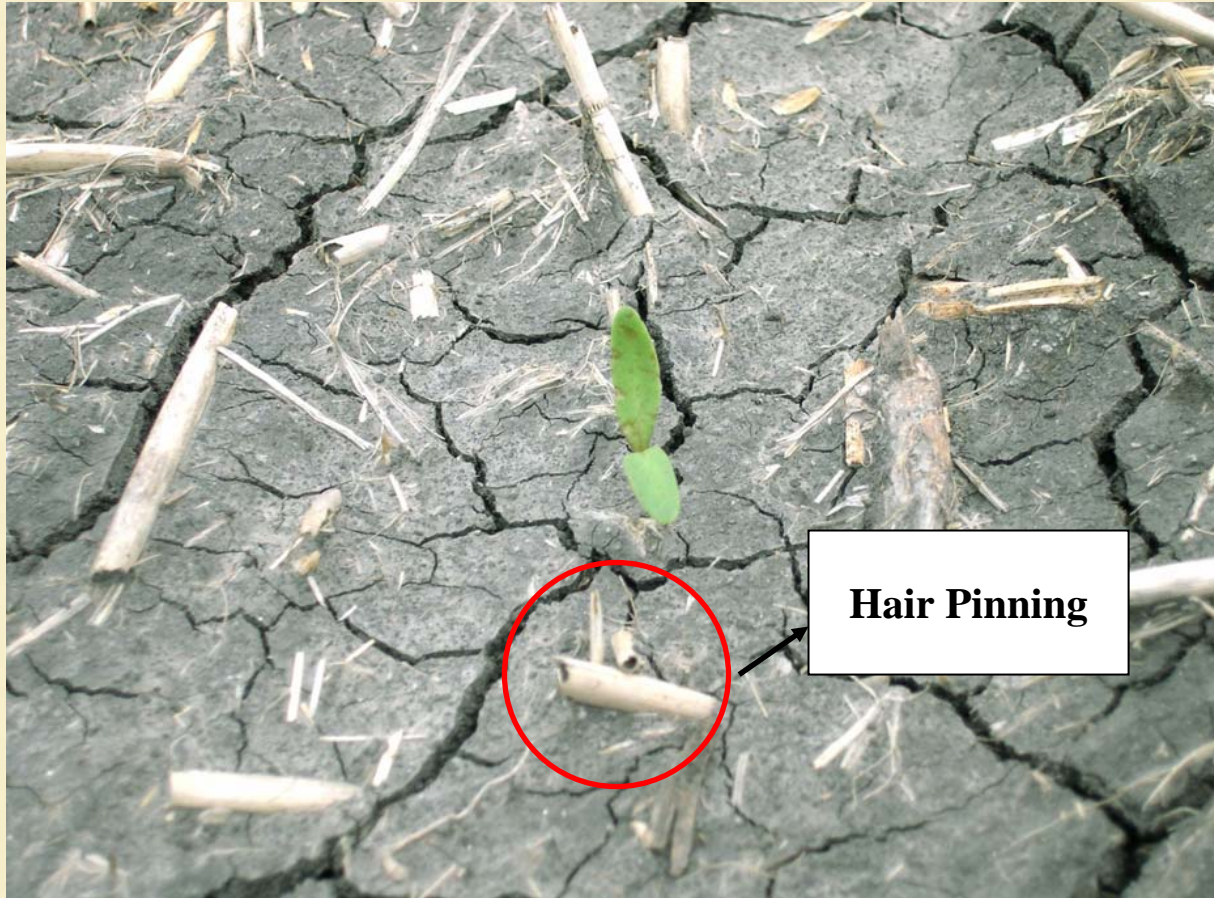
SAME FIELD PHOTOS TAKEN IN SPRING OF '05







Residue Management









2004 6 3

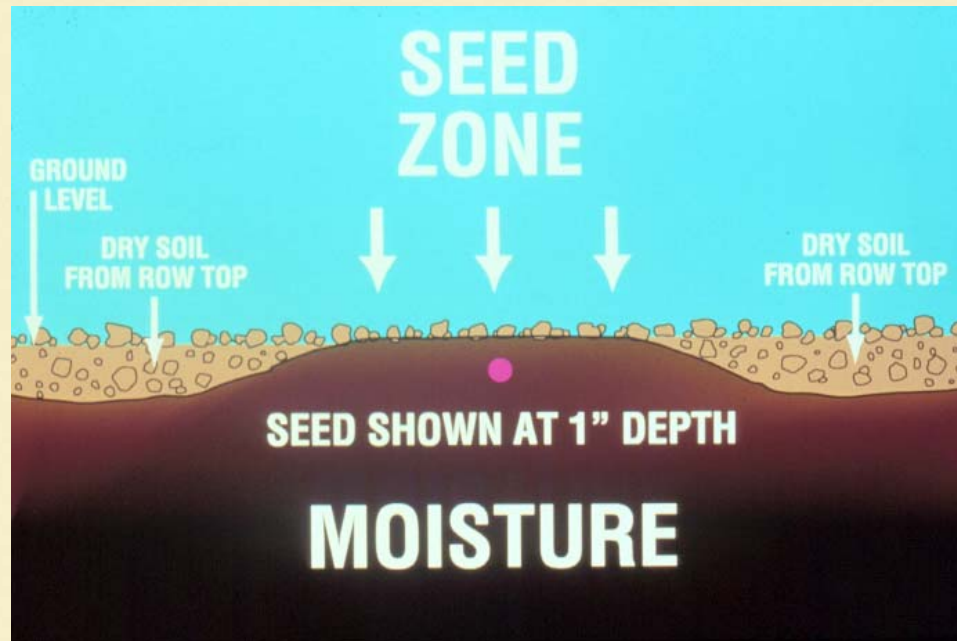
Trash Wheels



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Ridge tilling

- Seeding into moisture



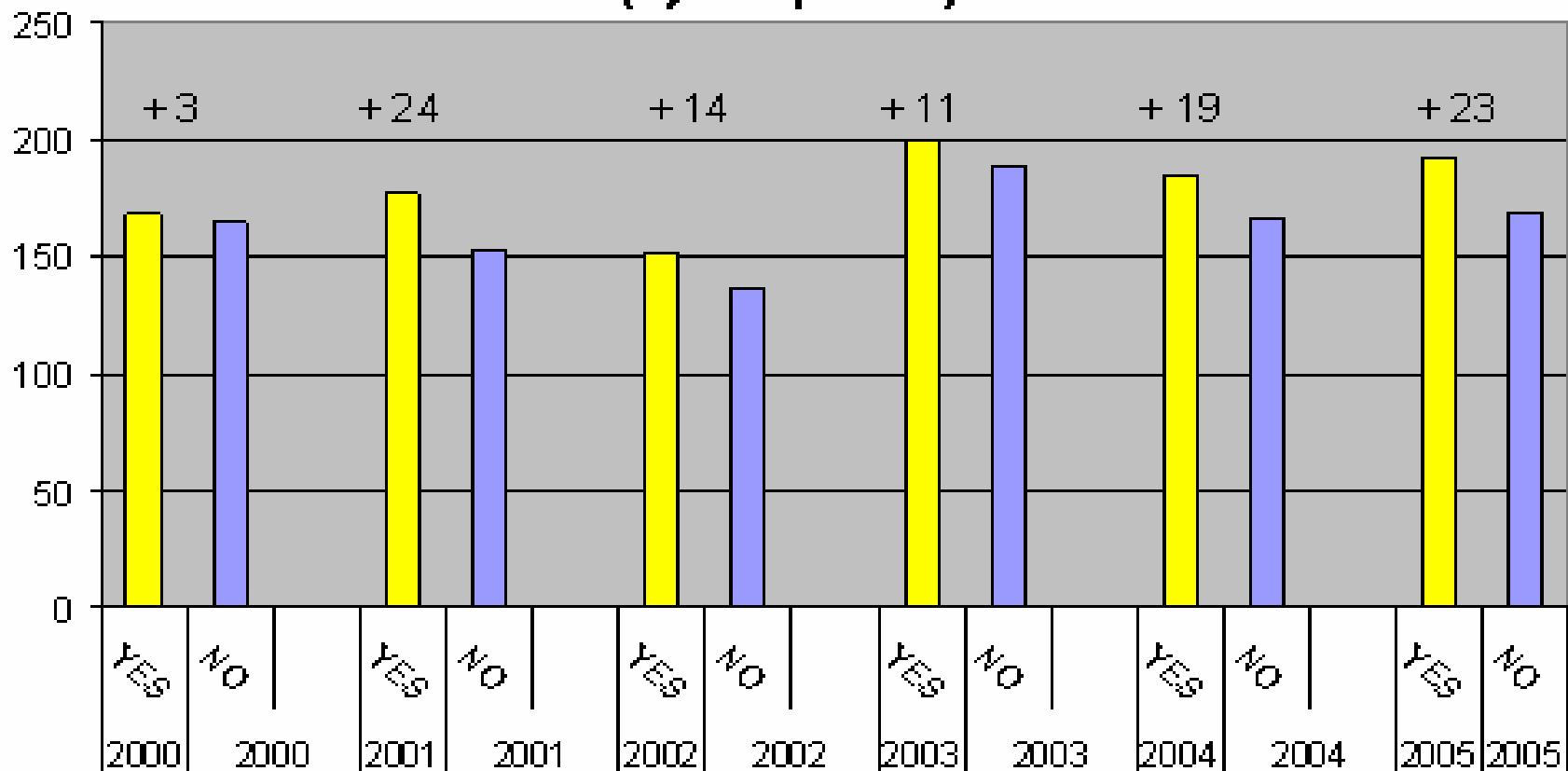
Ridging Benefits for Stand Establishment

- Higher population
- No wheel track across rows in spring
- Optimum moisture conditions for emergence
- Reduce winter soil erosion
- Reduced water around seedling during rainfall events



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RRV Ridging vs. Not Ridging Beets / 100 Feet (by Crop Year)




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Frost Damage

- One survives one dies



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Replanting Decisions

Factors to consider prior to replanting any field:

- Cause of the stand loss – for example, herbicide carryover versus frost
- Potential loss of yield versus possible replanting advantage
- Date the replanting can be completed
- Seed yet to germinate and grow
- Seed that has germinated and still should emerge



Replanting Decisions

Factors to consider prior to replanting any field:

- Disease and insect pressure that may cause more stand loss
- Weed pressure in the field
- Uniformity of remaining stand across the field – skips, gaps, doubles
- Cost and availability of desired seed
- Will costly soil applied herbicide effectiveness be lost?
- Availability of soil moisture to establish replanted field in a timely manner



Revenue Per Acre based on Planting Date and Stand Count

Stand Count	Week Ending Date						
	25-Apr	2-May	9-May	16-May	23-May	30-May	6-Jun
50	\$544	\$495	\$446	\$397	\$349	\$300	\$251
60	\$570	\$522	\$473	\$424	\$375	\$326	\$278
70	\$597	\$548	\$499	\$451	\$402	\$353	\$304
80	\$624	\$575	\$526	\$477	\$428	\$380	\$331
90	\$650	\$601	\$553	\$504	\$455	\$406	\$358
100	\$677	\$628	\$579	\$530	\$482	\$433	\$384
110	\$703	\$655	\$606	\$557	\$508	\$460	\$411
120	\$730	\$681	\$632	\$584	\$535	\$486	\$437
130	\$757	\$708	\$659	\$610	\$561	\$513	\$464
140	\$783	\$734	\$686	\$637	\$588	\$539	\$491
150	\$810	\$761	\$712	\$663	\$615	\$566	\$517
160	\$836	\$788	\$739	\$690	\$641	\$593	\$544
170	\$863	\$814	\$765	\$717	\$668	\$619	\$570
180	\$890	\$841	\$792	\$743	\$695	\$646	\$597
190	\$916	\$867	\$819	\$770	\$721	\$672	\$624





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Summary

What can I do to improve?

Stand Preserving Practices

- Planting enough seeds – **consider 4.5 to 5.0 inches**
- Use of cover crop on erosion prone soils or fields
- Maintain some soil clods on top of friable but well packed seedbed



Now that's emergence!



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Questions?



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