A Corny Review of 2001

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By and large, very good yields

Indiana Corn Yields Since 1930

Trend yield increasing by 1.6 bu/ac per yr

2001 Record Yield: 156 bu/ac

Nielsen’s 1st Crop Year: 73 bu/ac

Data Source: USDA-NASS, Jan 2002

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Was it really a record?

Departures From Trend Since 1930

Only 5th largest positive departure since 1982

Data Source: USDA-NASS, Jan 2002
Why the high yields?

- Early planting statewide
  - Earliest ever date of 50% completion
  - Earliest ever date of 100% completion

Half of the corn crop was planted over a seven-day period from Apr 29 to May 6!
Earliest Finish to Planting

90% of acreage planted in 20 days

Data source: USDA-NASS
So, is early planting good?

- Early planting in and of itself does not guarantee maximum yields
  - Soil conditions near planting are important
  - Extended early establishment period due to subsequent cool conditions increases exposure to various stresses
- Planting date is only one of many yield influencing factors for corn
  - Remainder of season influences yield also
Does Early Planting Matter?

Not much correlation between statewide planting progress & departure from trend yield. WHY?
However, that being said...

- Downside risks of late planting outweigh those of early planting, especially for large acreage corn farmers
  - Particularly when “late” means plantings after mid-May

- Nonetheless, recognize the increased risks of “Super-Early” plantings
  - First two weeks of April vs. last two weeks
Why the high yields?

- Early planting
- Excellent stands
  - Generally excellent conditions for germination & emergence
  - More farmers are becoming aggressive in their seeding rates
    - Hybrids today tolerate thick stands better.
    - Less aggressive farmers being replaced?
Corn seed/plant populations

Plants or seeds per acre

0  5,000  10,000  15,000  20,000  25,000  30,000  35,000

Yield level (bu/ac)

>125

100-125

< 100

Source: Industry & univ. research

What’s in your field?
Final corn plant populations (IN)

Source: http://usda.mannlib.cornell.edu/reports/nassr/field/pcp-bb/2001/crop1101.txt
Stand establishment variability

- A brief reminder that variable stands can easily reduce yield potential in corn by as much as 7 to 15 bu/ac due to...
  - Uneven plant spacing
  - Uneven emergence
- Planter malfunction is often the culprit.
  - Worn out planter parts
  - Incorrect planter settings & adjustments
  - Operator error
    - Including excessive planting speed
How to achieve uniform stands?

Fortunately, with just a little effort and common sense!

- Offseason care of planter
- Repairing or replacing worn parts
- Making planter adjustments and operating the planter as soil & weather conditions dictate

For more info...

http://www.agry.purdue.edu/ext/pubs/AGRY-91-01_v5.PDF
Why the high yields?

- Early planting
- Excellent stands
- Minimal disease pressure
  - Some early seedling blights
  - Some late developing GLS
  - Some late developing anthracnose
Why the high yields?

- Early planting
- Excellent stands
- Minimal disease pressure
- Minimal insect pressure

- Some white grub seedling damage
- Some CRW larval root feeding
- Some CRW & Jap beetle silk clipping
- Some ECB damage
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- Excellent stands
- Minimal disease pressure
- Minimal insect pressure
- Minimal heat & drought stress
  - Esp. during pollination & grain fill
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- Minimal heat & drought stress
- Early grain maturity & start of harvest
  - Early maturity led to rapid grain drydown
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- Minimal heat & drought stress
- Early grain maturity & start of harvest
- Minimal stalk rot pressure
  - Late in developing, esp. compared to 2000
  - Post-October harvest most susceptible
By and large, very good yields

- Despite some stresses:
  - Dry soils late April – mid May at & after planting
    - Some delayed emergence
  - Two frost events
    - Mid-April & Mother’s Day
  - Unusual cold spell from late May – early June
    - Purple corn
    - Delayed development
  - Aggressive CRW beetle silk clipping
    - Esp. early and late plantings or delayed emergers
  - Hail damage late in grain fill
  - October rains and stalk rots

A lesson from all of this:
Today’s hybrids are much more stress tolerant than those of years ago!
Hungry for More?

- Or didn’t catch what I said the first time?

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