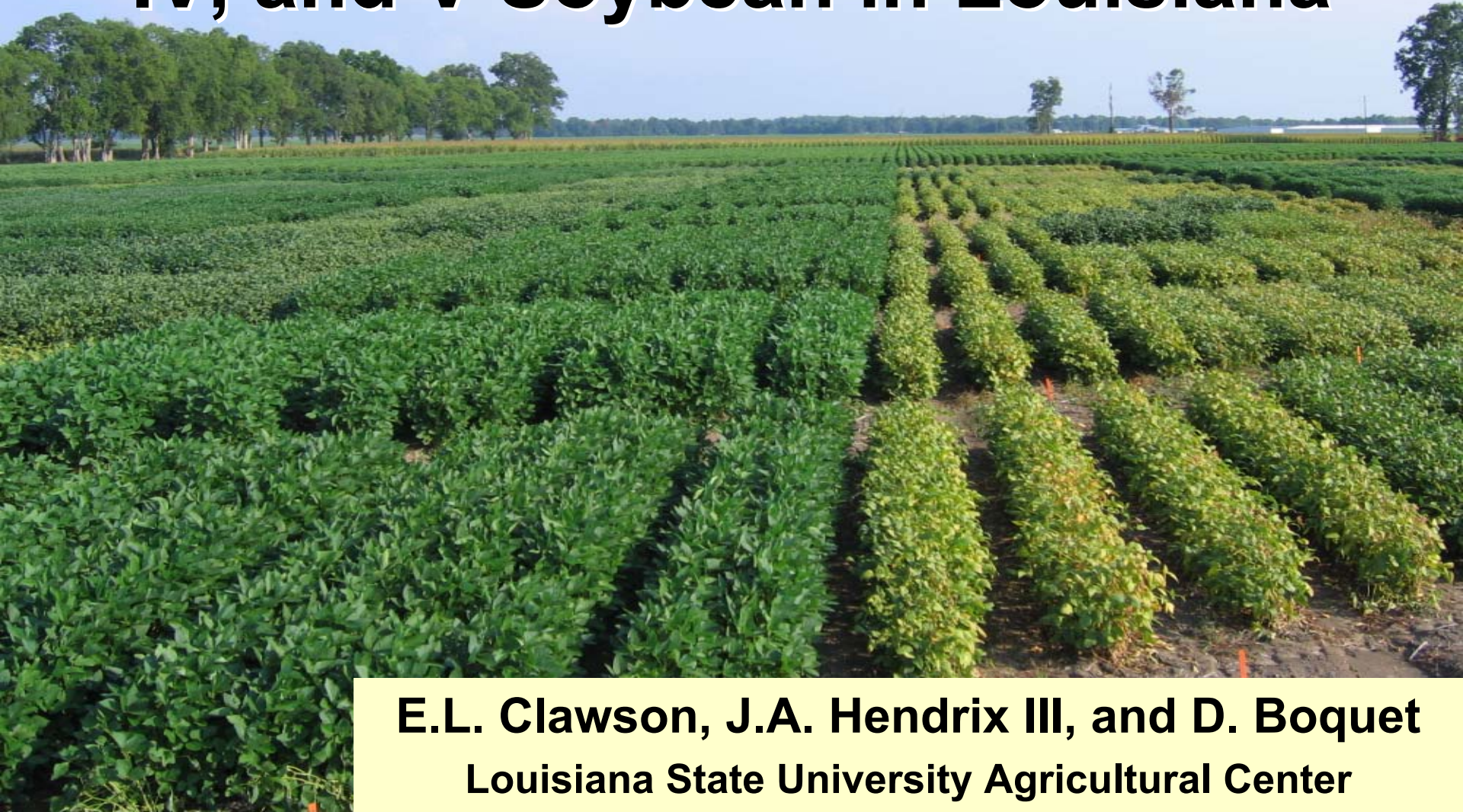


Planting Date and Row Spacing Responses of Maturity Group III, IV, and V Soybean in Louisiana



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Past Louisiana Soybean Planting Date Research

- **Rabb and Willis (1979)**
 - One known Maturity Group (MG) V. This variety was highest yielding when planted in early to mid-May
- **Boquet et al. (1983)**
 - One known MG V. Optimal planting date was May 15 for this variety.
- **Boquet, (1998)**
 - 1 MG V, 3 MG IV, and 1 MG III. For each maturity group, early May was part of the optimal planting date window

Current Louisiana Planting Date Recommendations

- **Maturity Group V**
 - Beginning late April
 - Some varieties, not until mid-May
- **MG IV and indeterminate MG V:**
 - April 10 – May 10
- **Maturity Group III**
 - No recommendation (new to LA)



Planting Date and Environment

- **Soil temperature**
- **Day length**
- **Seasonal weather patterns (waterlogging, drought)**



Planting Date and Production Practices

- **Row spacing**
- **Raised beds**
- **Irrigation**



2006 Materials and Methods

Site and Design

- **Northeast Research Station, Saint Joseph, LA**
- **Sharkey clay**
- **Furrow irrigated**
- **Split-split plot**
 - Whole plots: planting dates
 - Split plots: row spacing
 - Split split plots: varieties

2006 Materials and Methods

Seedbed and Row Spacing

- Wide raised beds
 - (80-inch centers with 50-55 inches plantable width)
- In narrow row spacing, harvested center four of eight rows per plot. Row spacing averaged 20 inches
- In wide row spacing, harvested center two of four 40-inch rows per plot



2006 Materials and Methods

Planting Dates and Varieties

Planting Dates

- March 15
- March 27

- April 7
- April 18

- May 2
- May 12
- May 23

- June 2

Varieties

- **MG V**
 - Terral (T) 55R15
- **MG IV**
 - Delta King (DK) 4967 RR
 - Deltapine (DP) 4724 RR
 - Pioneer (P) 94B73
 - Terral 48R14
- **MG III**
 - Dyna-Gro (DG) 31J39
 - Dyna-Gro 3392 NRR
 - Delta King 3964 RR

2005 Materials and Methods

Seedbed and Row Spacing

- Wide row study
 - 40-inch raised beds
 - 40-inch row spacing
 - harvested center 2 of 4 rows
- Narrow Row Study
 - Avg 20-inch row spacing
 - Flat seed bed
 - Harvested center 4 of 8 rows

2005 Materials and Methods

Planting Dates and Varieties, Wide Row Study

Planting Dates

- March 31
- April 7
- April 21
- May 6
- May 19
- June 3
- June 16
- June 30

MG IV

Asgrow 4403
Deltapine 4724 RR
Delta King 4967 RR
Pioneer 94B73
Progeny 4949 RR
Terral 48R14

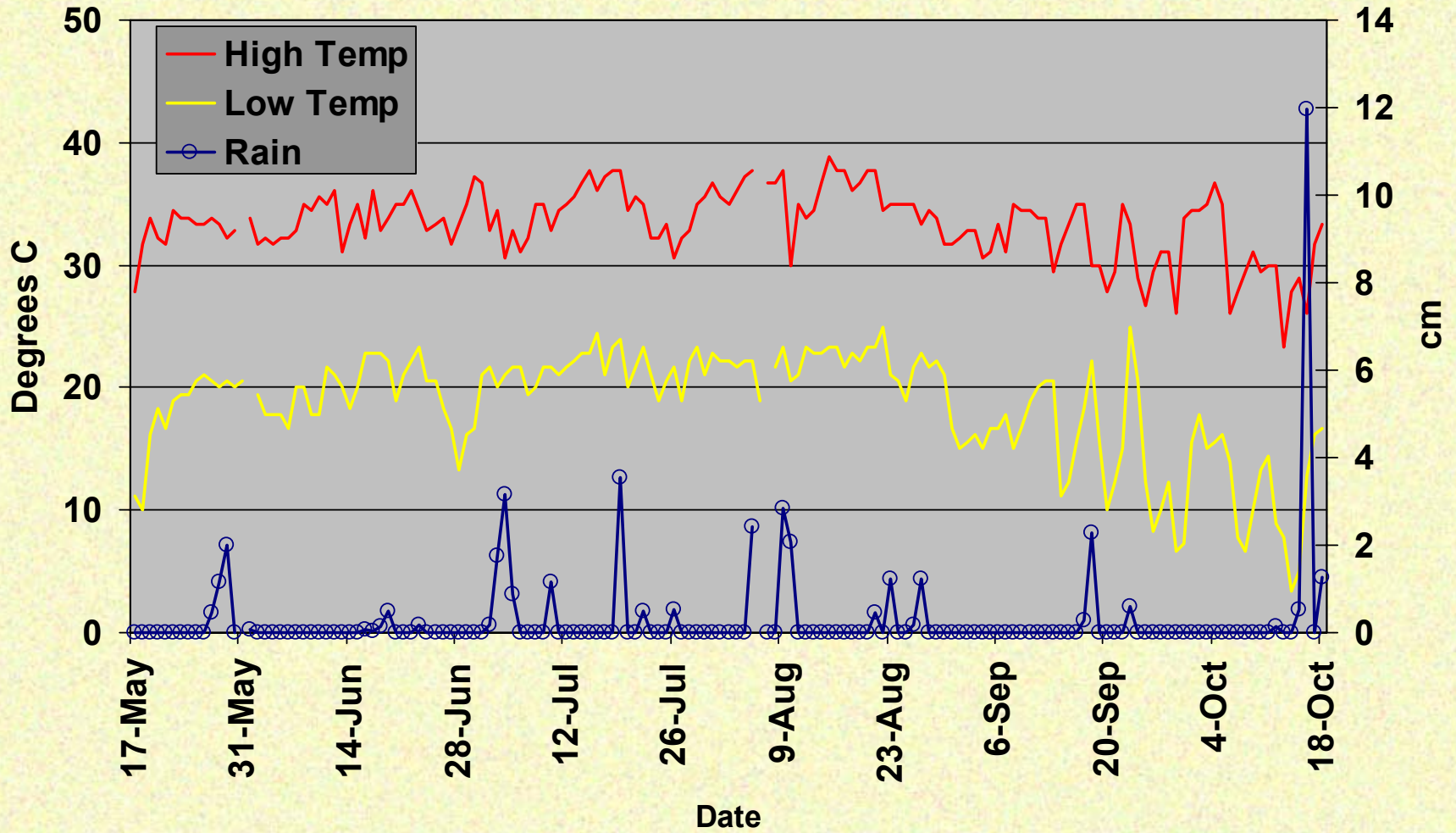
MG III

Delta King 3964 RR
Dyna-Gro 3392

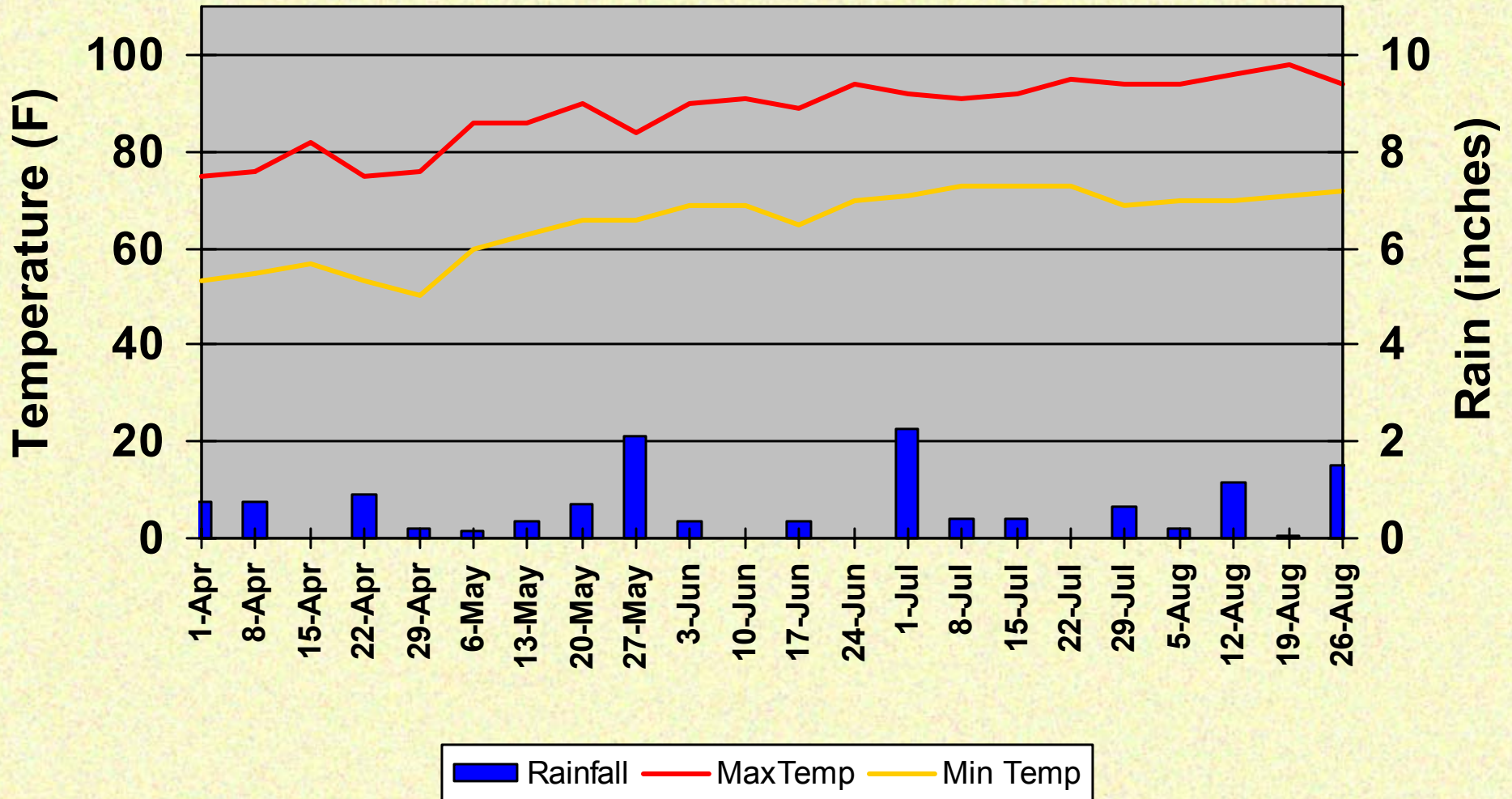
Data Collection

- **Yield**
- **Mature plant height**
- **Growth stages**
 - Included 95% mature pod color, whole plot basis
- **Stand establishment**
 - Stand counts 1, 2, and 3 weeks after planting

2006 Daily Weather



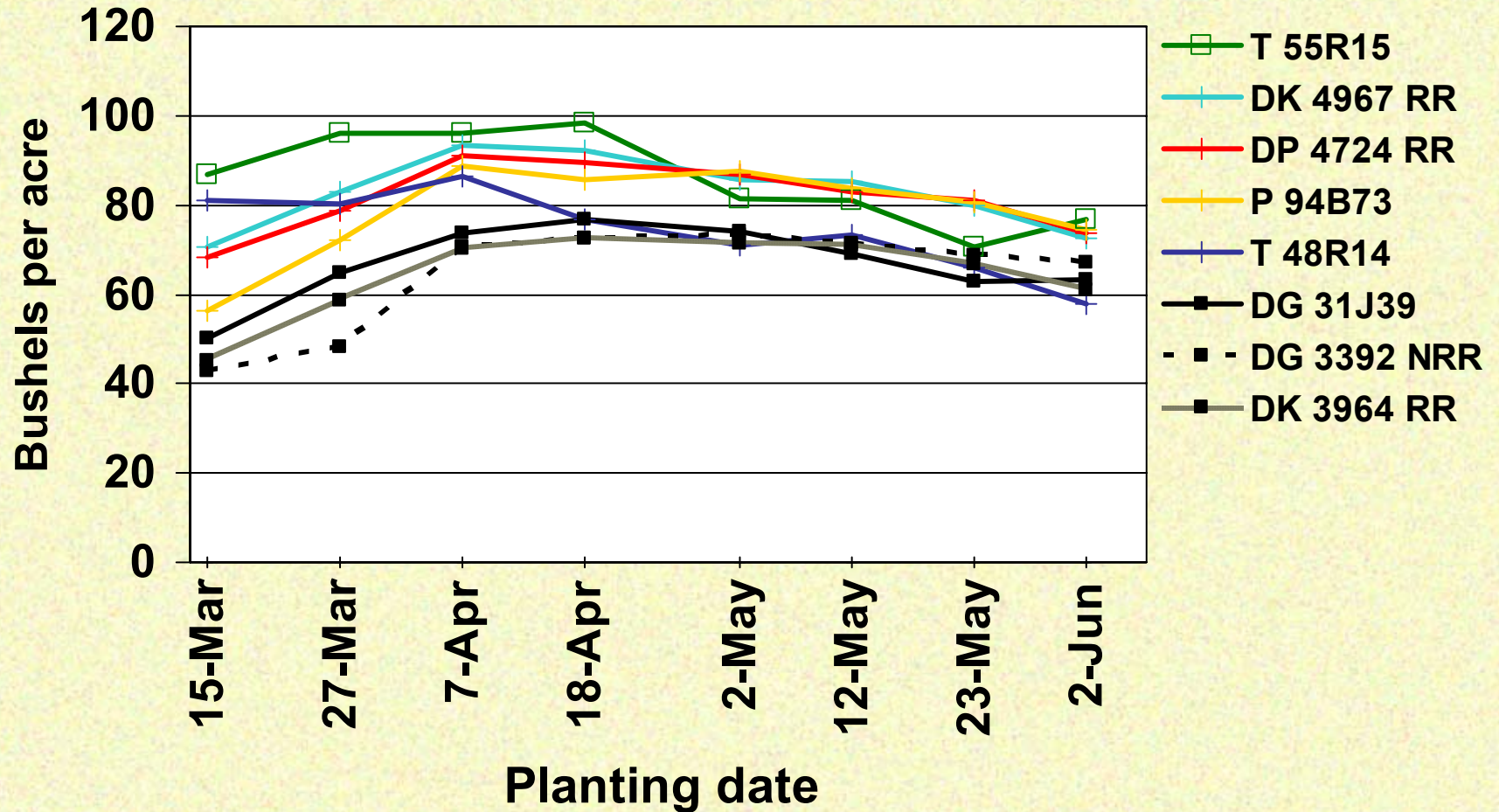
2005 Weekly Weather



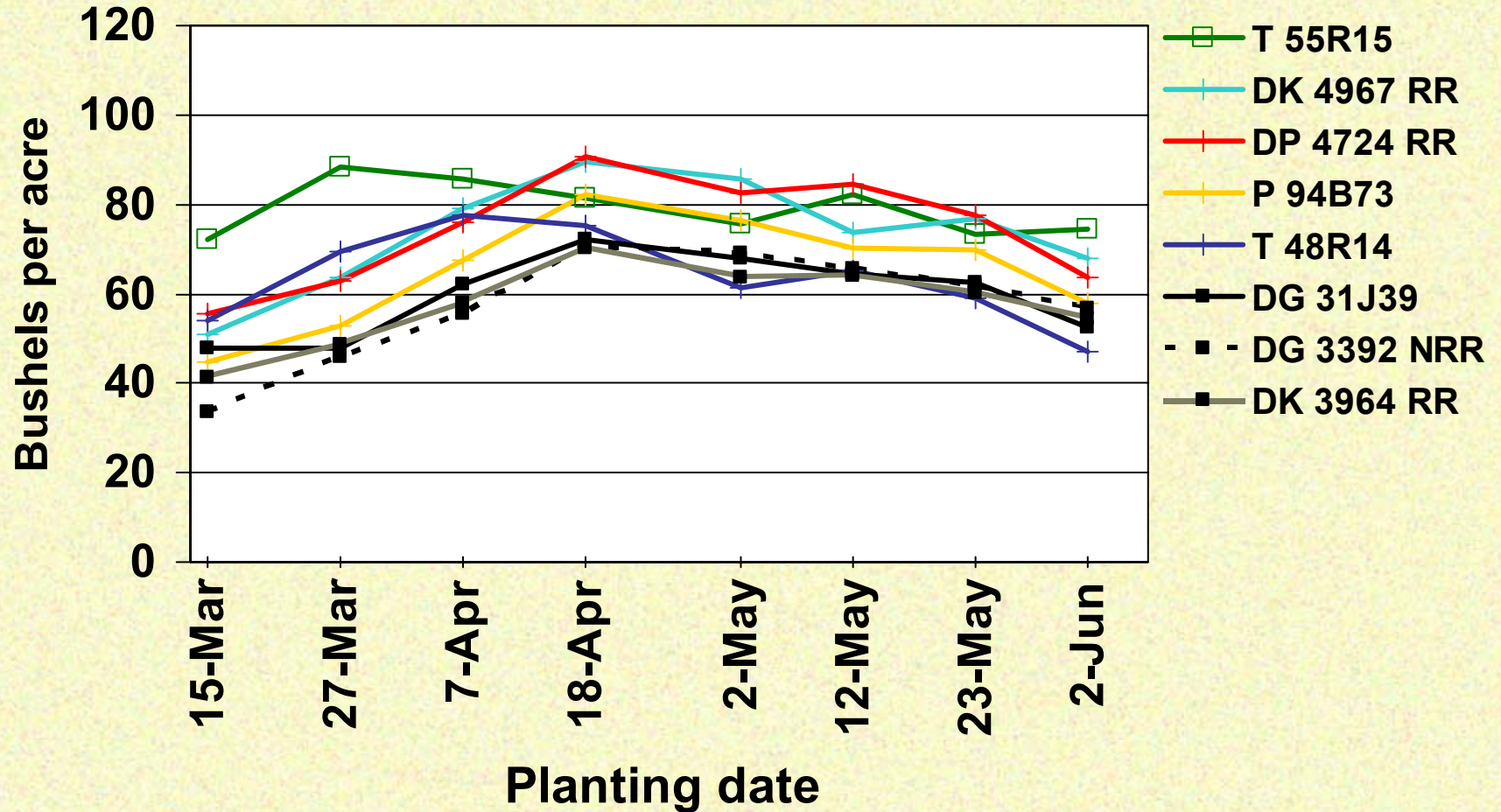
2006 Results



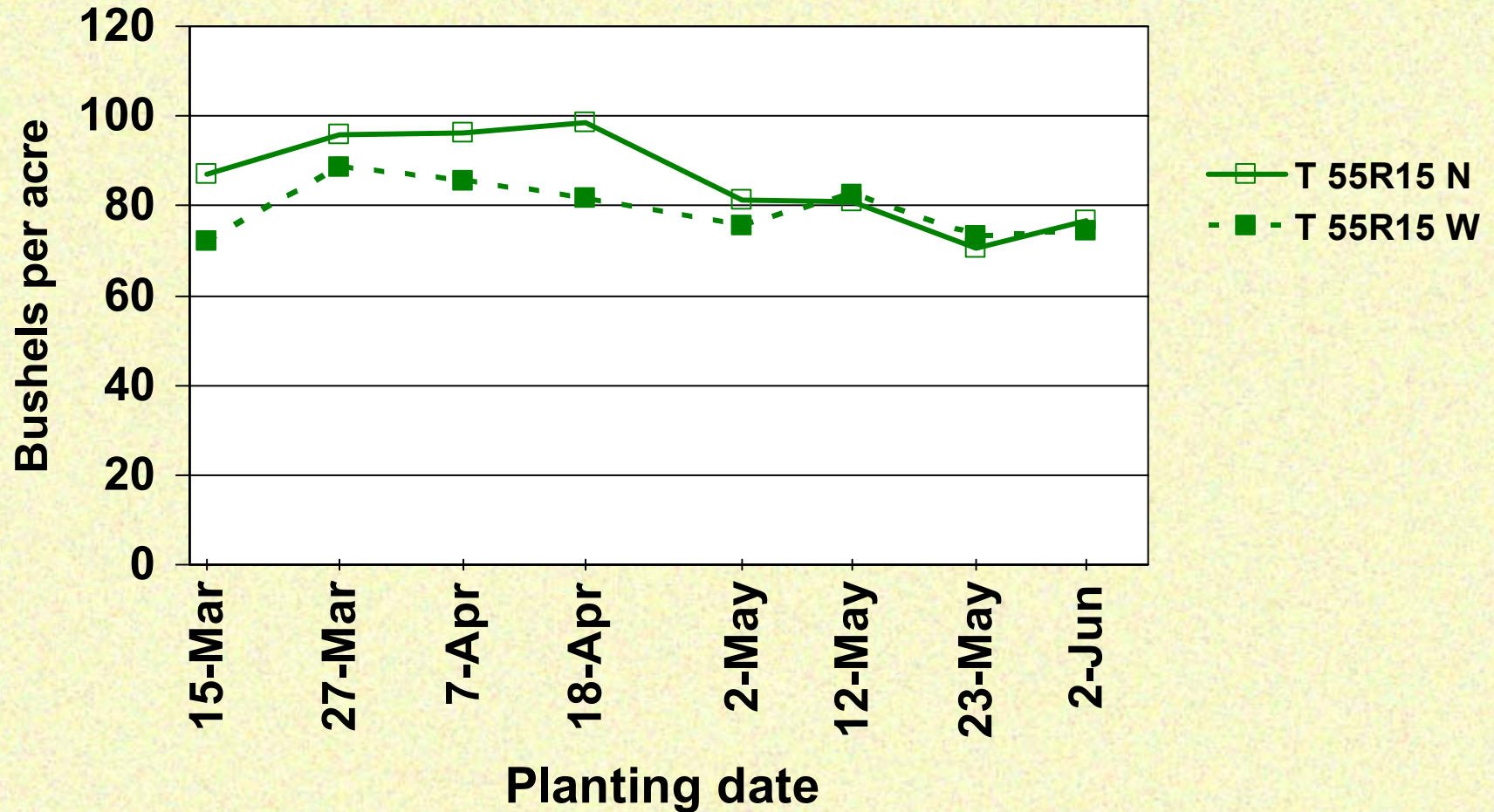
Yield: Narrow Rows



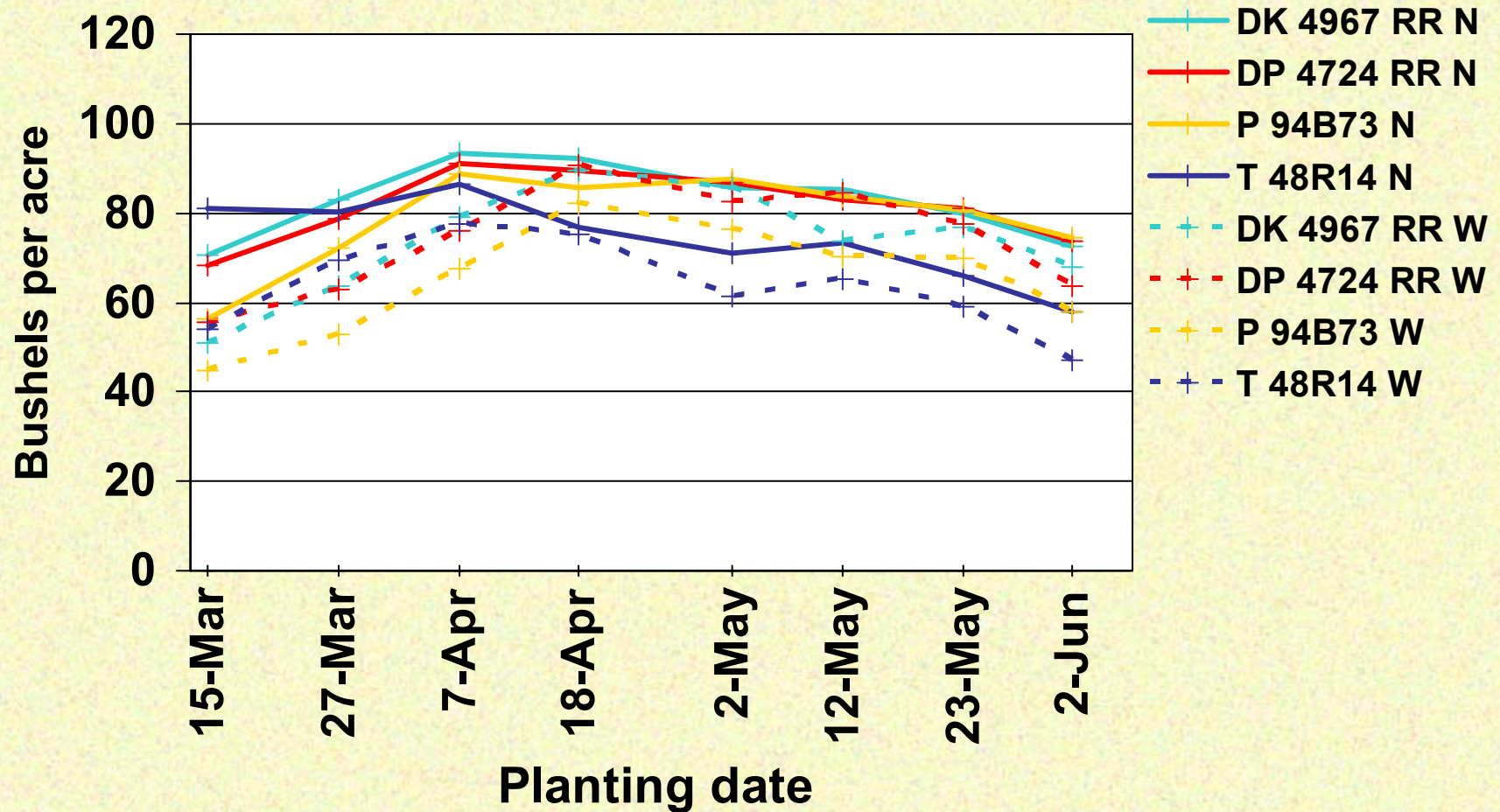
Yield: Wide Rows



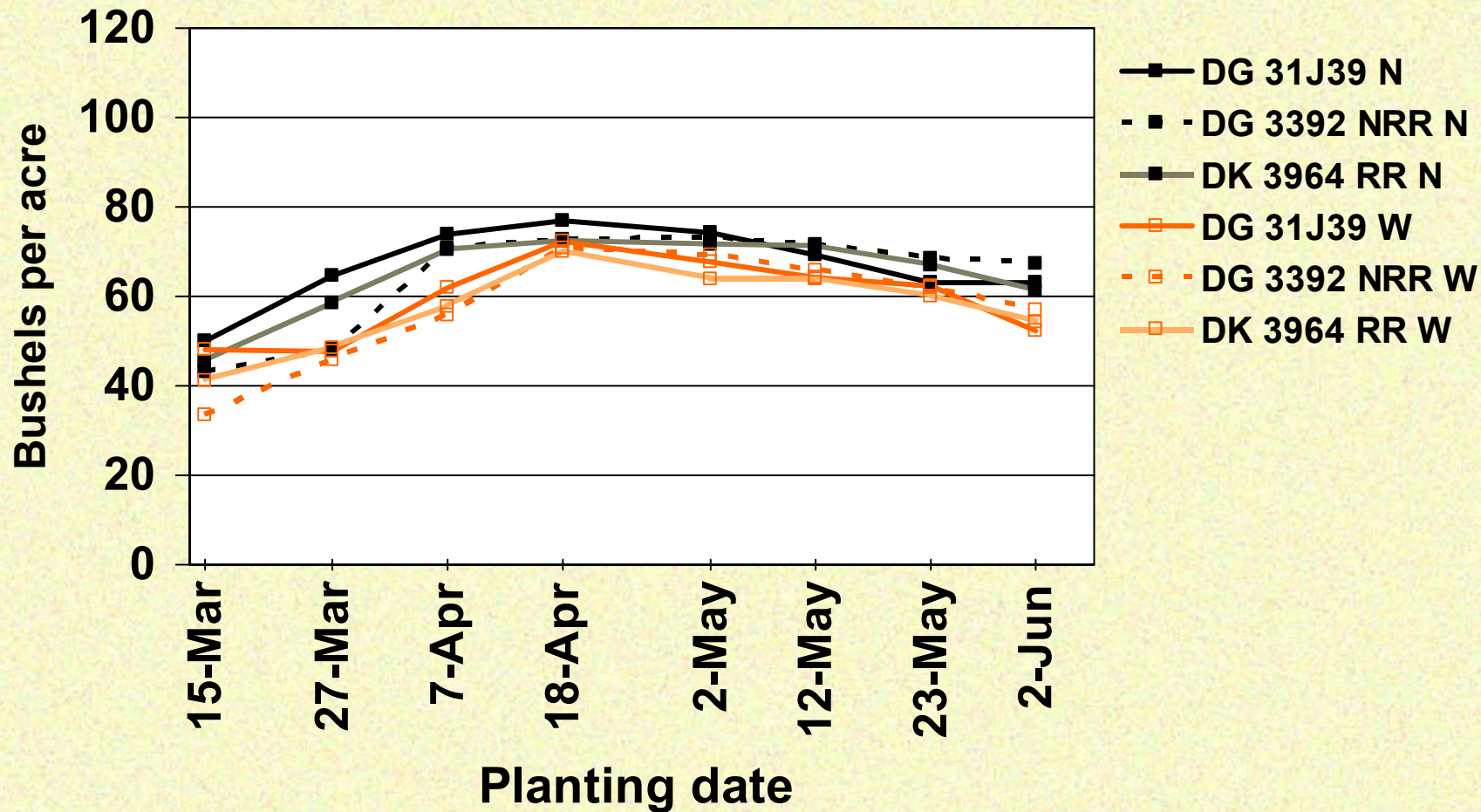
Yield: Planting Date x Row Spacing, MG V



Yield: Planting Date x Row Spacing, MG IV



Yield: Planting Date x Row Spacing, MG III



Yield and Row Spacing

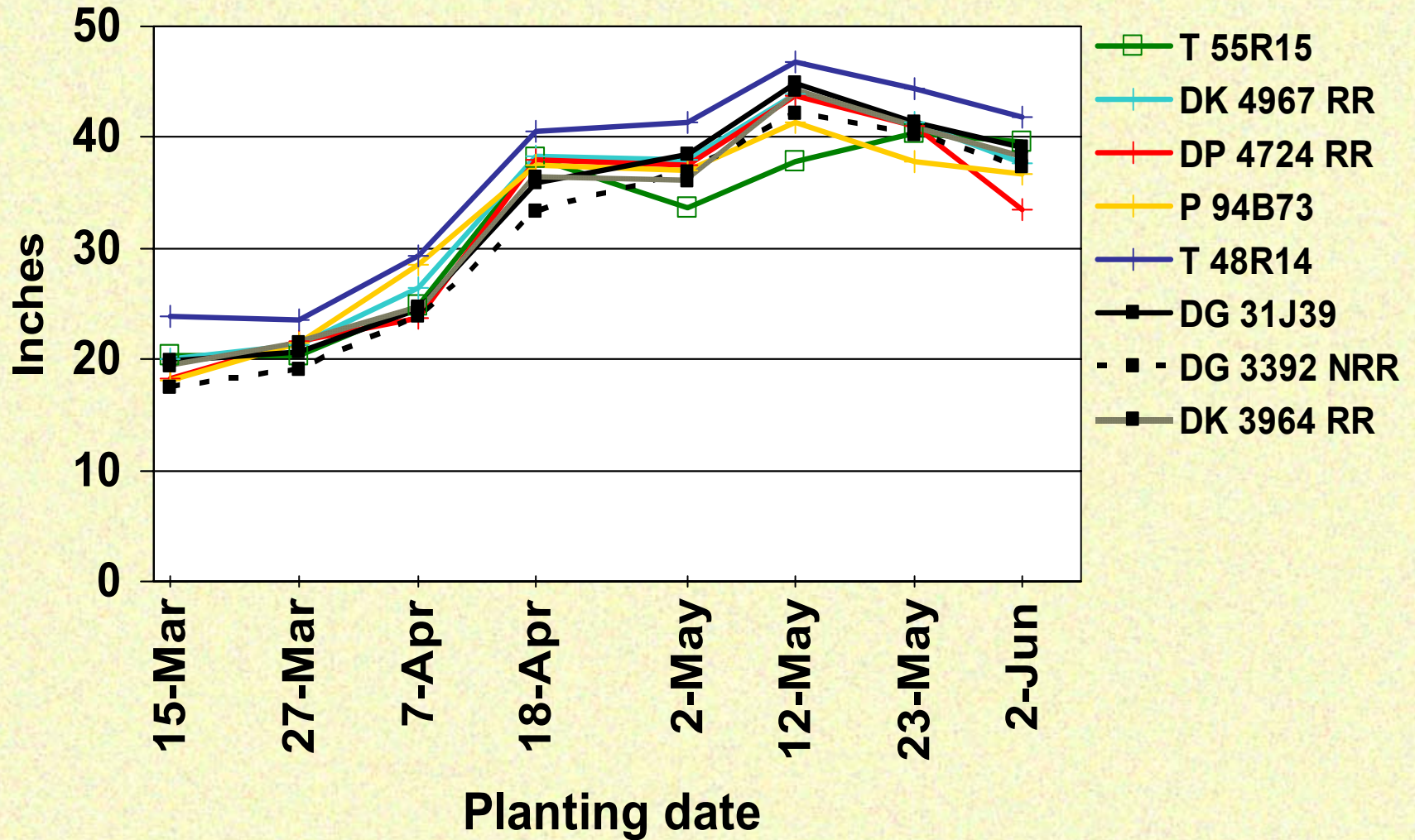
- **Narrow rows...**
 - increased yields in March and Early April
 - also increased yields, usually to a lesser extent, at later planting dates for some varieties
 - caused an earlier optimal planting date in many instances

Earliest Dates for Near-optimal Yield

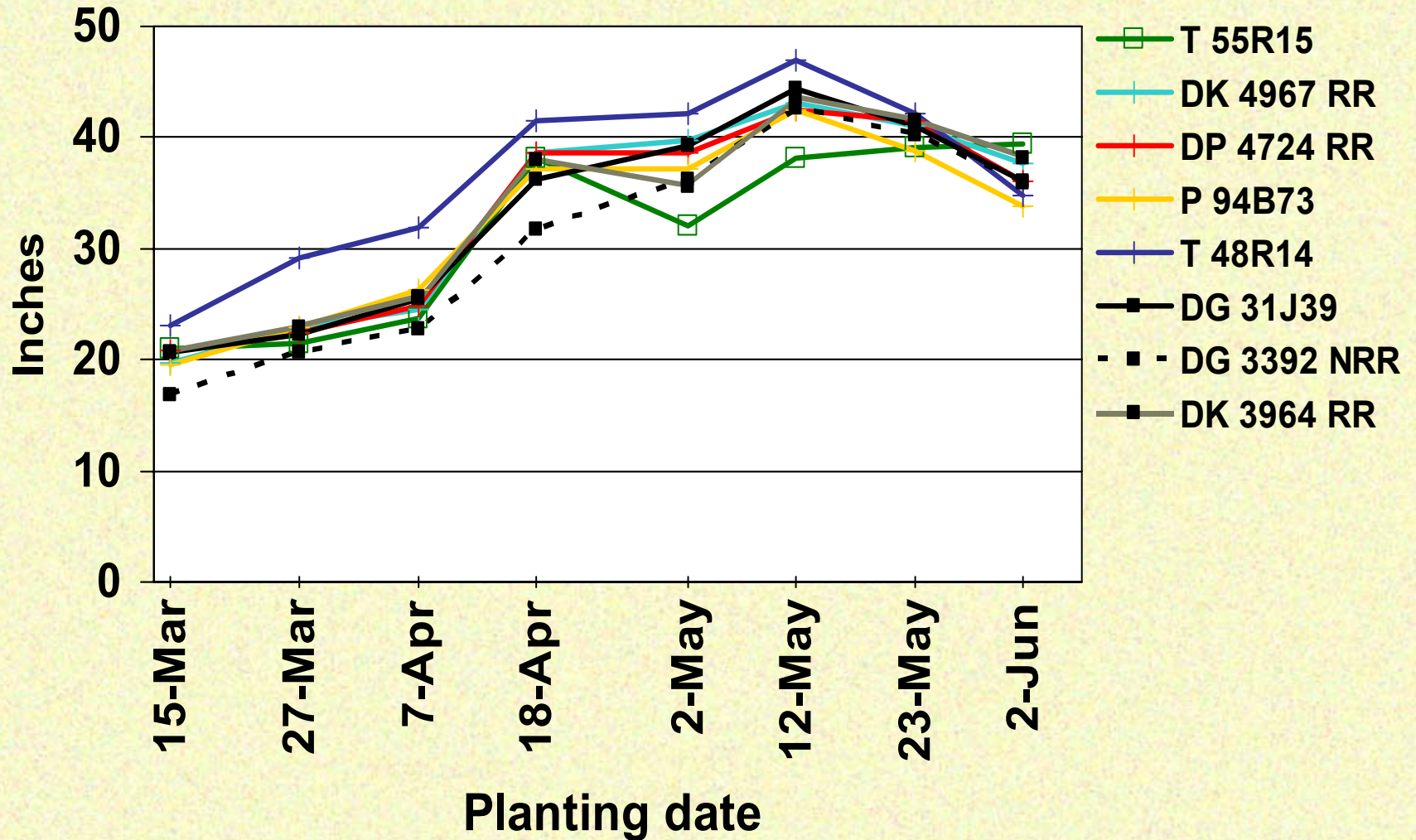
	Narrow rows	Wide rows
MG V	March 27	March 27
MG IV	April 7	April 18*
MG III	April 7	April 18

* For 3 of 4 varieties

Plant Height: Narrow Rows



Plant Height: Wide Rows



Plant Height and Yield Response

- **Shorter plants prior to April 18 probably contributed to the yield increase in narrow rows at early planting dates**

Maturity Summary

To obtain 7 days' earlier maturity...

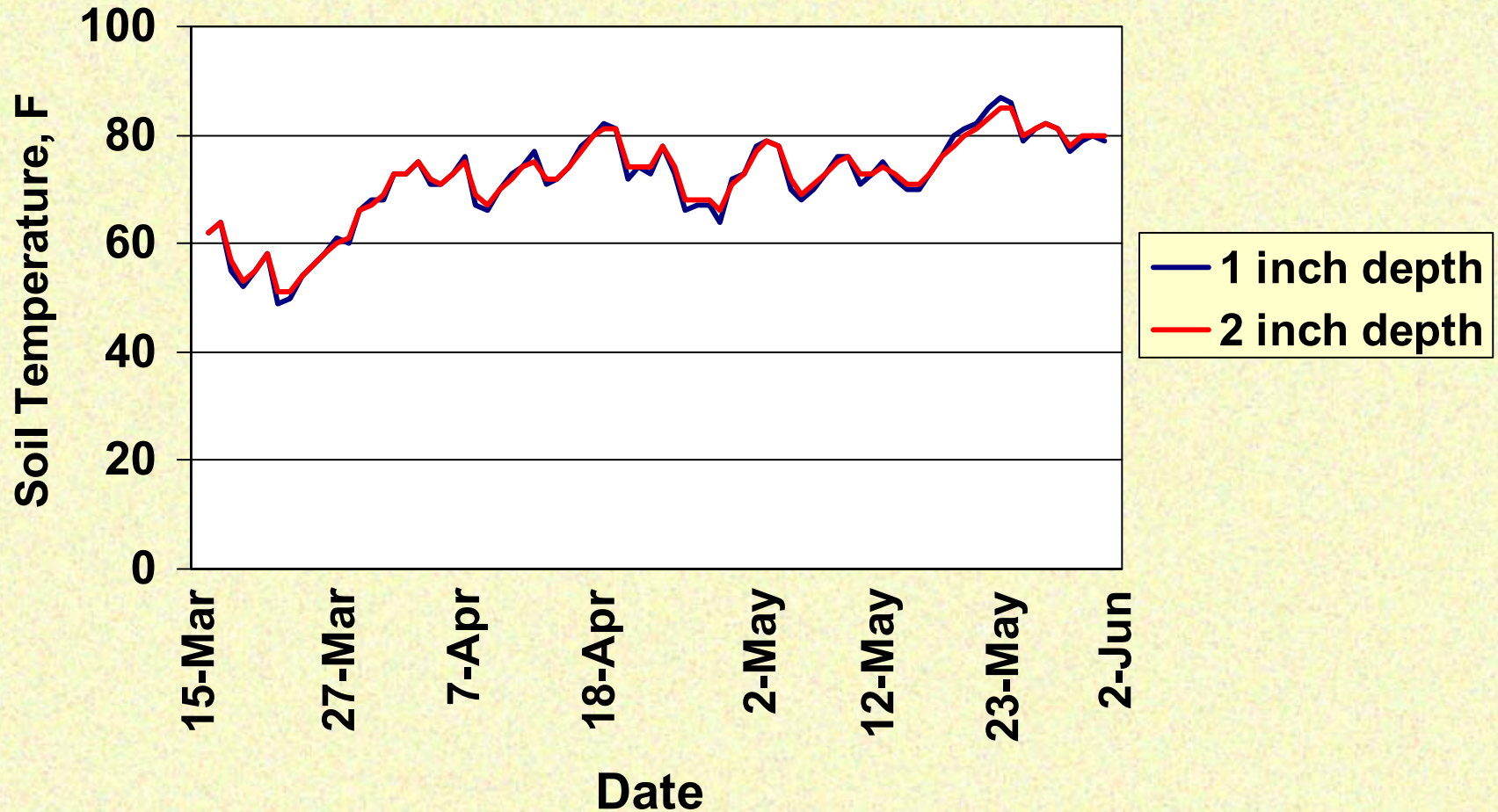
MG V	MG IV	MG III
Plant 15 days earlier	Plant 8 days earlier	Plant 7 days earlier

**(Based on 2006 results between
March 27 to May 23)**

Applicability Across Years and Envrionments

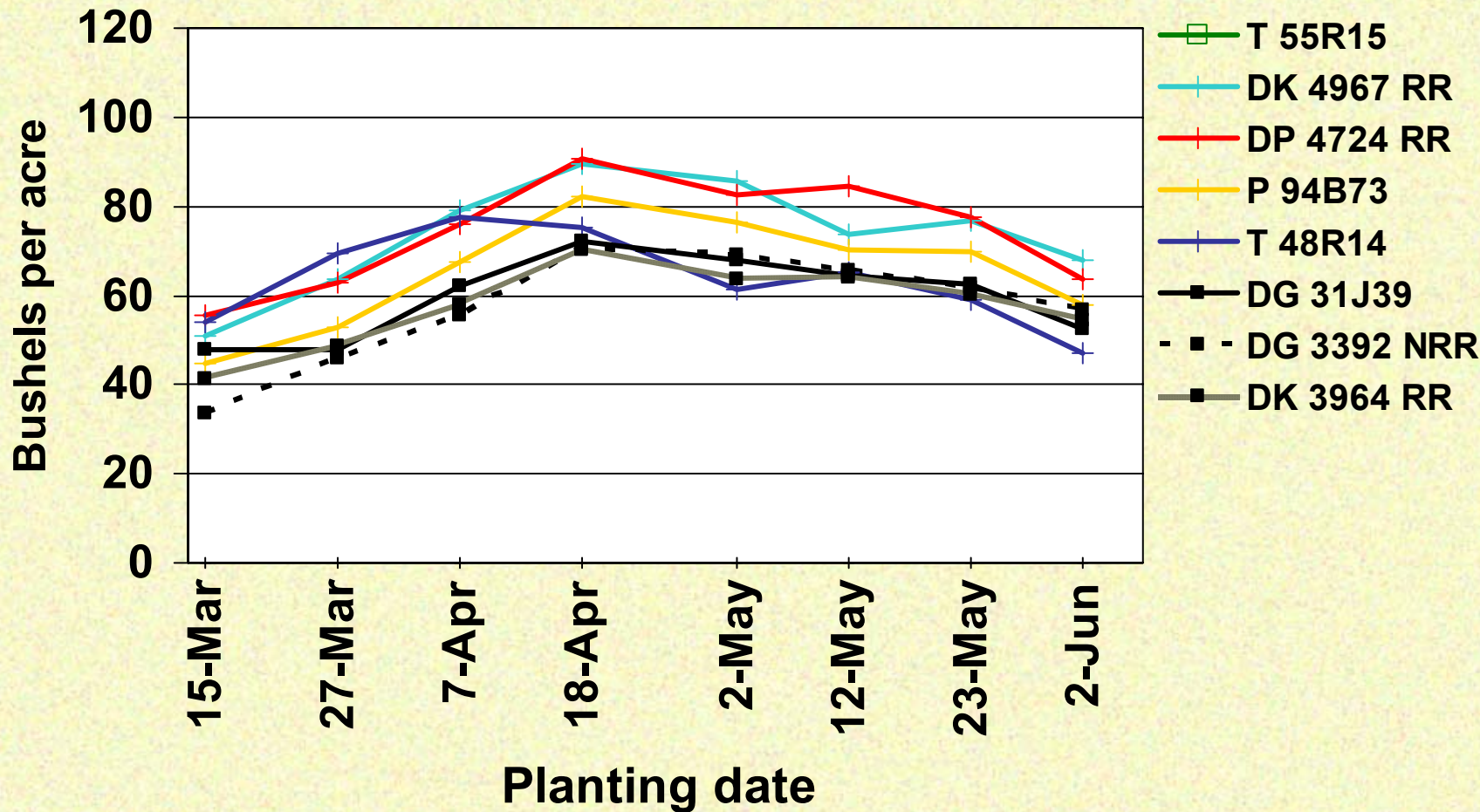


2006 Soil Temperature (24-hr average) and Planting Date



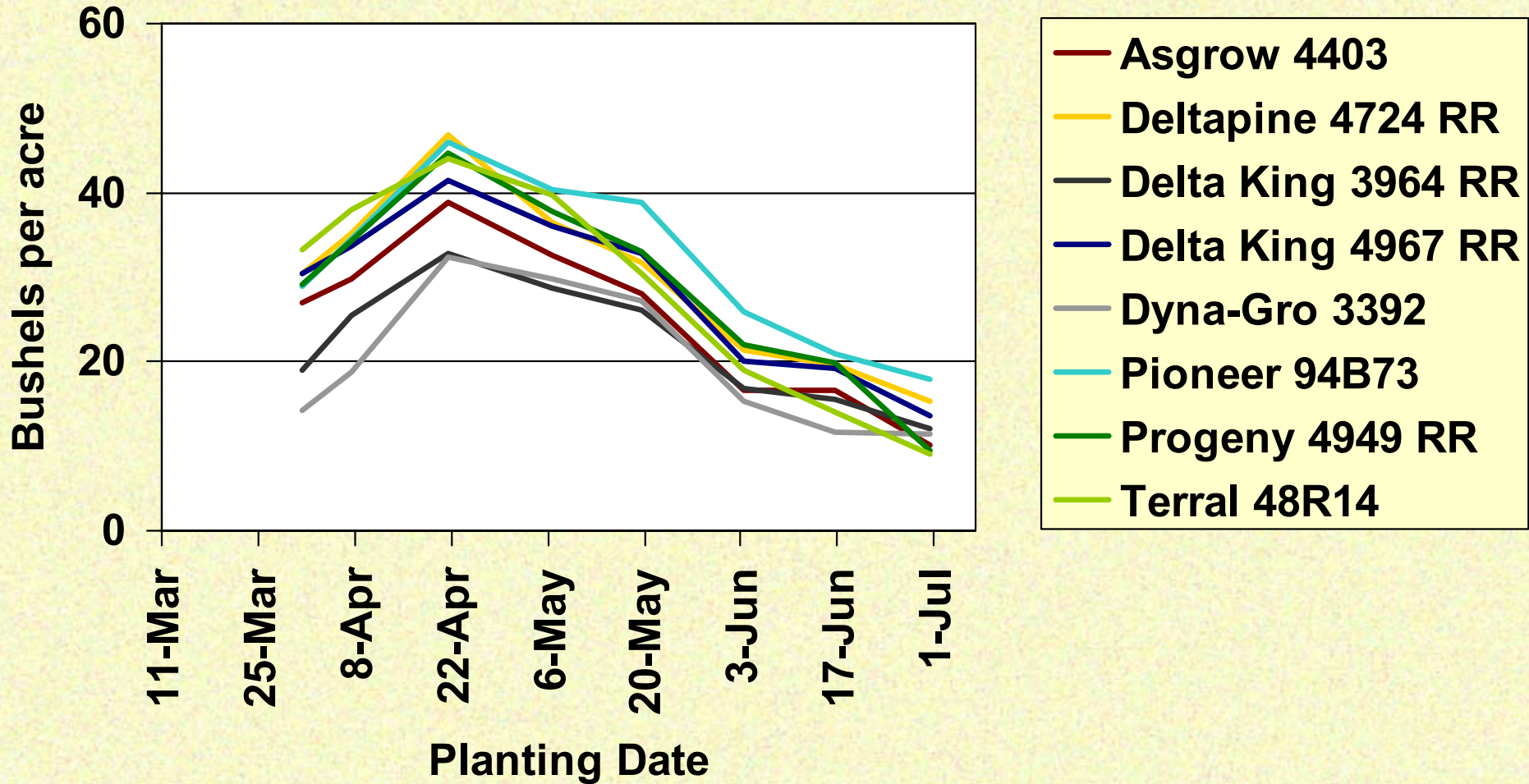
2006 Yield: Wide Rows

MG III and IV only



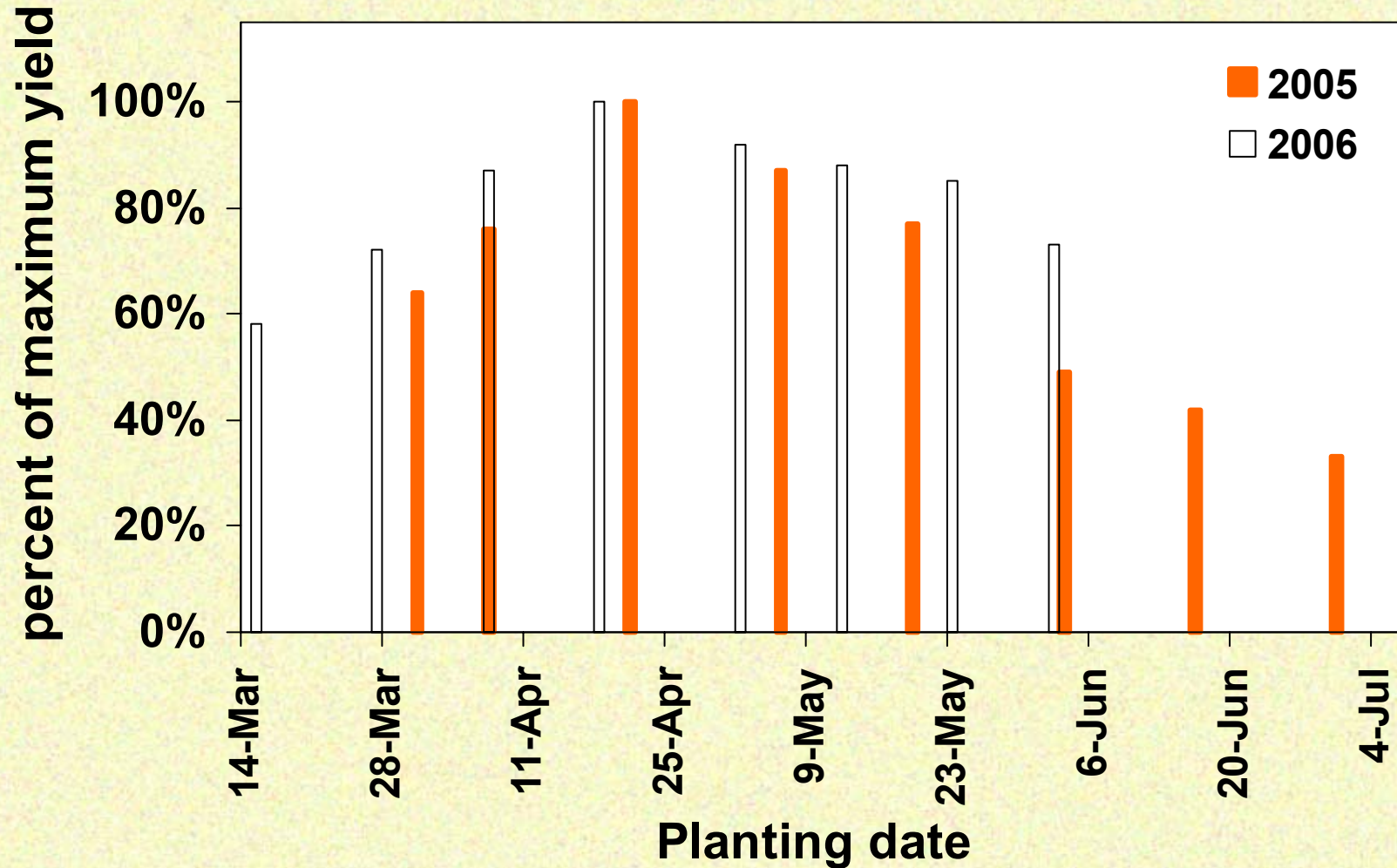
2005 Yield: Wide Rows

Planting date x variety interaction



Wide Row Yield, 2005 & 2006

varieties in common only



Summary

- **Optimal planting dates for the MG V variety were early. Additional evaluation needed**
- **Yields higher in narrow than wide rows if planted before April 18**
- **Earlier optimal planting date in narrow rows**

Summary

- **Maturity group III varieties matured earlier but were consistently lower yielding**
- **Maturity of the MG V variety was less responsive to planting date**
- **Irrigation may help to reduce the degree of yield loss with late planting.**

Acknowledgements

