# Thrips and Nematode Suppression with Vydate: Results from On-Farm and Research Station Trials

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# Managing Thrips

Thrips injury can reduce peanut yield

Imidacloprid is the most widely used in-furrow insecticide in North Carolina and Virginia (inexpensive and liquid)

Growers routinely apply liquid inoculant

Reluctance to use granular products (hard to go back in the “granular direction” for many farmers)

Imidacloprid performance has become erratic

Is there a liquid alternative?

Follow up of acephate spray after imidacloprid has been perceived as adequate

What happens if acephate resistance becomes more widespread?

## INSECT CONTROL ON PEANUTS

***Table 5-1. Insect Control on Peanuts***

| Insecticide and Formulation | Amount of Formulation Per Acre | Precautions and Remarks |
|---|---|---|
| **SEASONAL CONTROL OF THRIPS AND LEAFHOPPERS** | | |
| **Thrips at Planting** | | |
| acephate (Orthene 97) (generics available) | 0.75 to 1 lb | Apply as in-furrow spray in 3 to 5 gal of water per acre. State (24c) label must be in possession at time of application. |
| phorate (Thimet) (generics available) | 5.0 lb of 20% granules | |
| imidacloprid (Admire Pro) | 7.0 to 10.5 fl oz | In furrow spray during planting, directed on or below seed. |
| oxamyl (Vydate C-LV) | 24 to 68 fl oz | Apply in a 7-in. band immediately behind the planter in a minimum of 10 gal of water per acre. Incorporate the band application at least 2 in. into the soil either by placing it in-furrow or by using mechanical means. Higher rates are used for severe infestations of nematodes. |
| thiamethoxam + mefenoxam + fludioxonil + azoxystrobin (Cruiser Maxx Peanuts) | treated peanut seed | Suppression only |
| aldicarb (AgLogic 15GG & AgLogic 15G) | 7.0 lb | Apply granules in the seed furrow and cover with 1 in. or more of soil. May provide suppression of nematodes when applied according to specific label directions. |


**Figure 14-1. A peanut dump cart with a weigh scale was used in large-plot testing. Source: David Jordan**

**Ordinal scale of 0 to 5 where:**

0 = no damage

1 = noticeable damage but no stunting

2 = noticeable feeding and 25% stunting

3 = feeding with blackened terminals and 50% stunting

4 = severe feeding and 75% stunting

5 = severe feeding and 90% stunting

*Table 14-18. Peanut Injury Caused by Thrips, Nematode Population in Soil in September, and Peanut Yield with In-furrow Systemic Insecticides, Nematicide, and Fumigant with Farmers and NC State Peanut Extension Agents in 2023* [a,b]

| | Counties, NC State Extension Agents, and Farms | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Gates County<br>Paul Smith<br>Lewis Farm Partnership[c] | | Hertford County<br>Dylan Lilley<br>Newsome Farms | | | Northampton County<br>Craig Ellison<br>Keith "Chick" Flythe | | |
| Treatment | Root Knot Nematodes (No. 500 $cm^3$) | Thrips injury (Scale 0–5) | Root Knot Nematodes (No. 500 $cm^3$) | Thrips injury (Scale 0–5) | Yield (lb/acre) | Ring Nematodes (No. 500 $cm^3$) | Thrips injury (Scale 0–5) | Yield (lb/acre) |
| No insecticide | | | 228 a | 2.8 a | 6443 b | 60 b | 2.5 a | 6185 a |
| Vydate | 1800 a | 1.0 b | 358 a | 1.0 b | 6244 b | 368 b | 0.75 c | 6209 a |
| Imidacloprid | 1040 a | 2.5 a | | | | | | |
| Vydate plus Imidacloprid | | | | | | | | |
| AgLogic | | | | | | 1047 a | 0.75 c | 6113 a |
| Velum plus Imidacloprid | 1860 a | 1.25 b | 18 a | 1.5 b | 7269 a | 383 b | 1.75 b | 6127 a |
| Metam Sodium then Imidacloprid | 2103 a | 2.0 a | | | | | | |
| P>F | 0.5834 | | 0.5162 | 0.0005 | 0.0017 | 0.0244 | 0.0005 | 0.8898 |
| **Soil Moisture** | | | | | | | | |
| June | Irrigated | | Good | | | Poor | | |
| July | Irrigated | | Good | | | Poor | | |
| August | Irrigated | | Good | | | Good | | |
| September | Irrigated | | Good | | | Good | | |

[a] Means within a column followed by the same letter are not statistically different.
[b] Thrips injury using an ordinal scale of 0 to 5 where 0 = no visible injury and 5 = plant death.
[c] Yields not recorded.

Test area including non-treated control plots received acephate

# Results from Small-Plot Trials

## In-Furrow Insecticides (early May)

No insecticide

Admire Pro at 12 oz/acre

Thimet at 5 pounds/acre

Vydate at 34 oz/acre

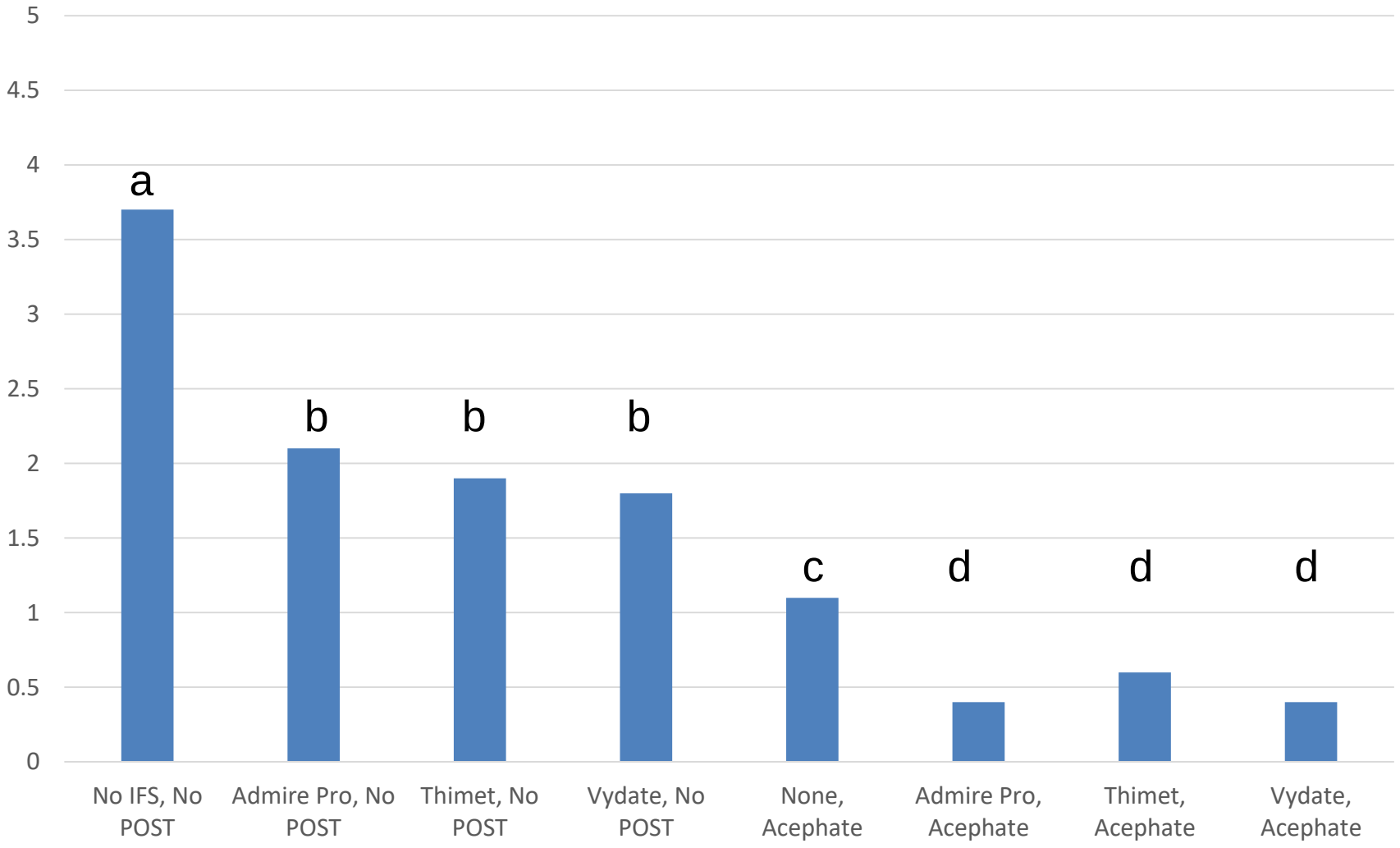
## Postemergence (late May/early June)

No Acephate

Acephate at 8 oz/acre

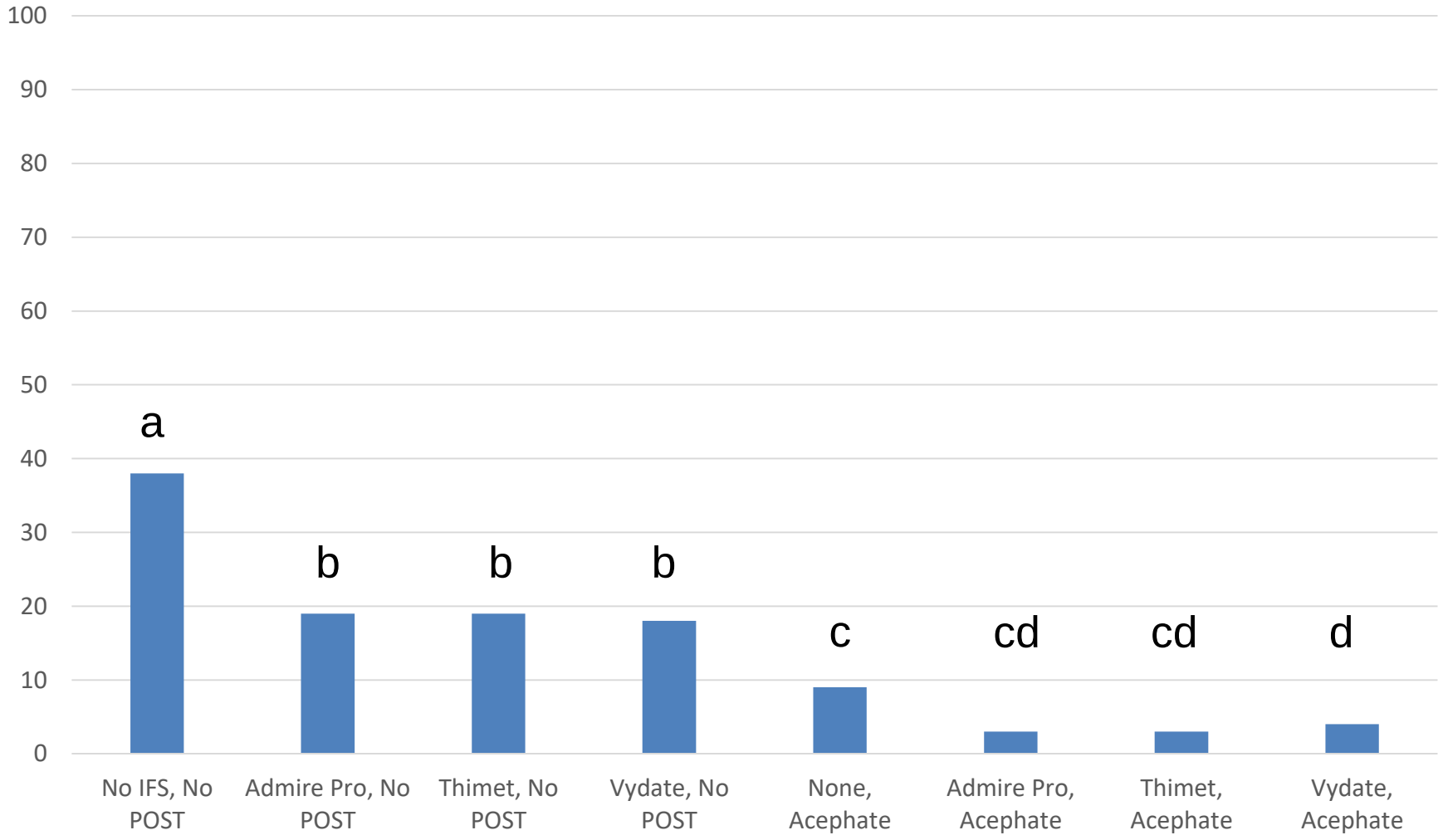
# Thrips Injury 6 Weeks after Planting

Scale of 0-5 (0 = no injury and 5 = plant death)
Data are pooled over years



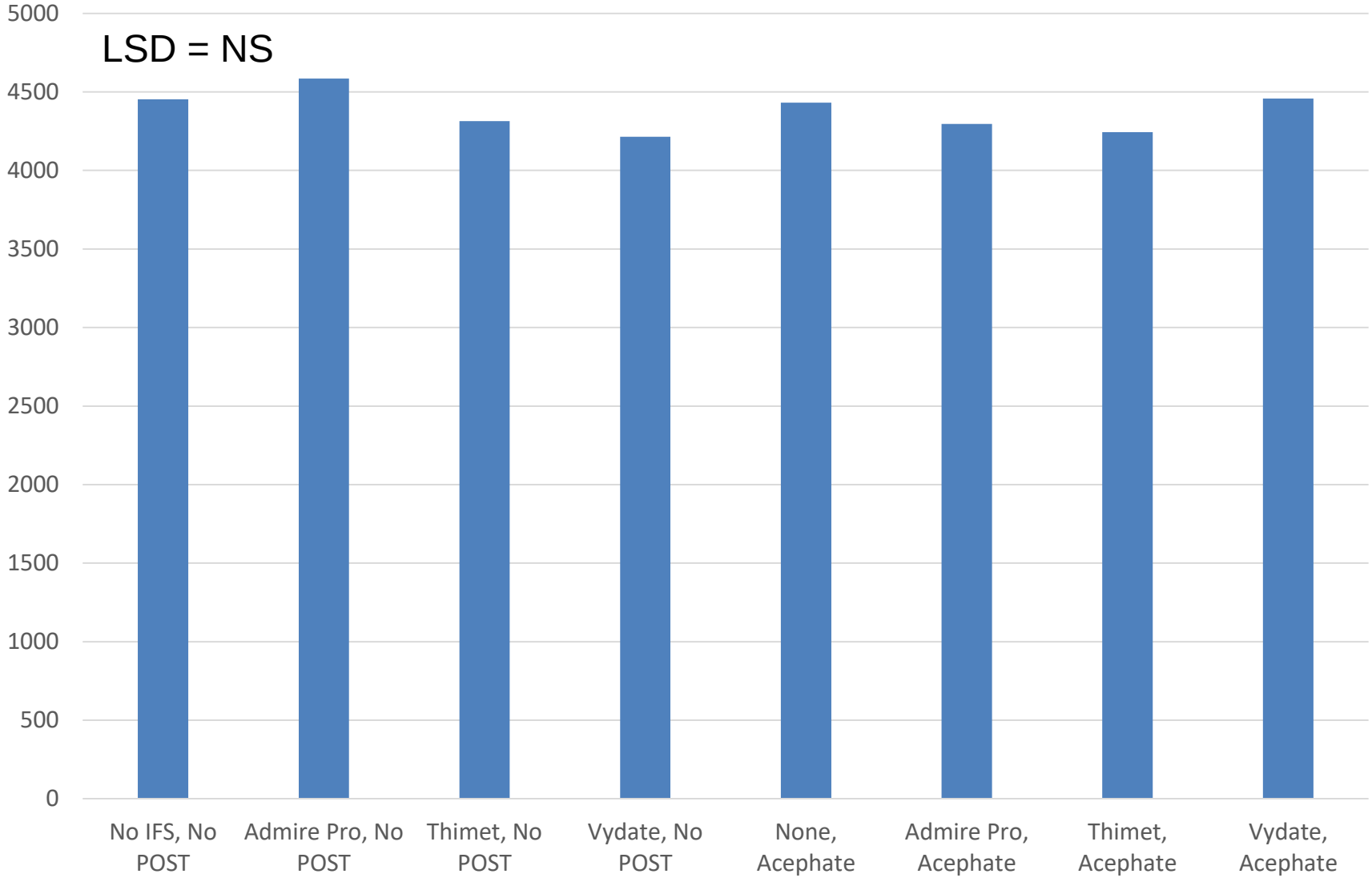
# Peanut Stunting 6 Weeks after Planting

Scale 0-100 (0 = no stunting and 100 = plant death)
Data are pooled over years



# Peanut Yield (pounds/acre)

Data are pooled over years



# Insecticide-Inoculant Compatibility

## In-Furrow Insecticide

No insecticide

Admire Pro

Admire Pro plus Velum

Vydate

## Inoculant

No inoculant

Exceed

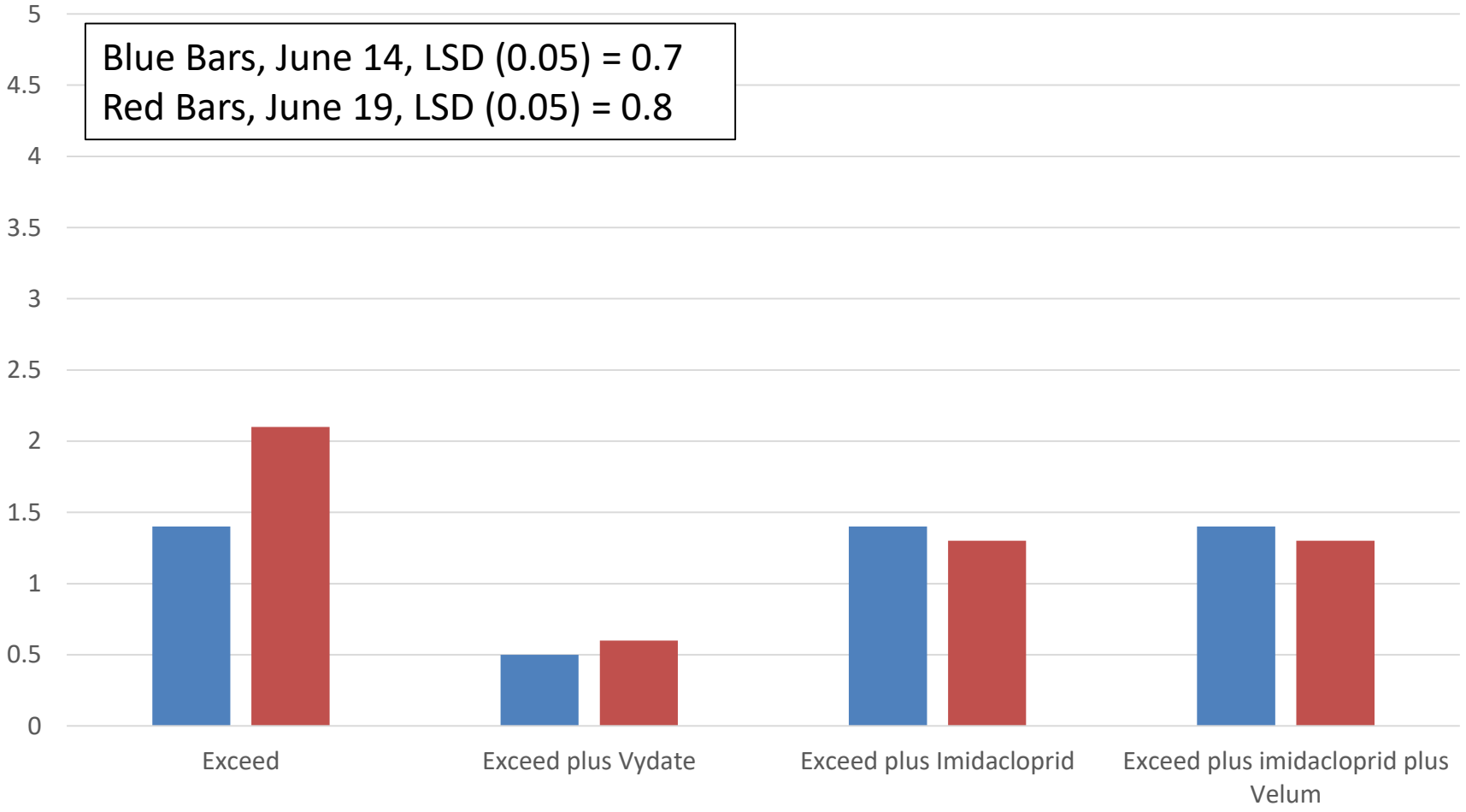
**Thrips damage on an ordinal scale of 0 to 5 where:**
0 = no damage
1 = noticeable damage but no stunting
2 = noticeable feeding and 25% stunting
3 = feeding with blackened terminals and 50% stunting
4 = severe feeding and 75% stunting
5 = severe feeding and 90% stunting

**Plant stunting on a scale of 0 to 100% where 0 = no stunting and 100 = plant death**

**Nodule health on an ordinal scale of 0 to 5 where 0 = no nodules and 5 = abundant nodulation**

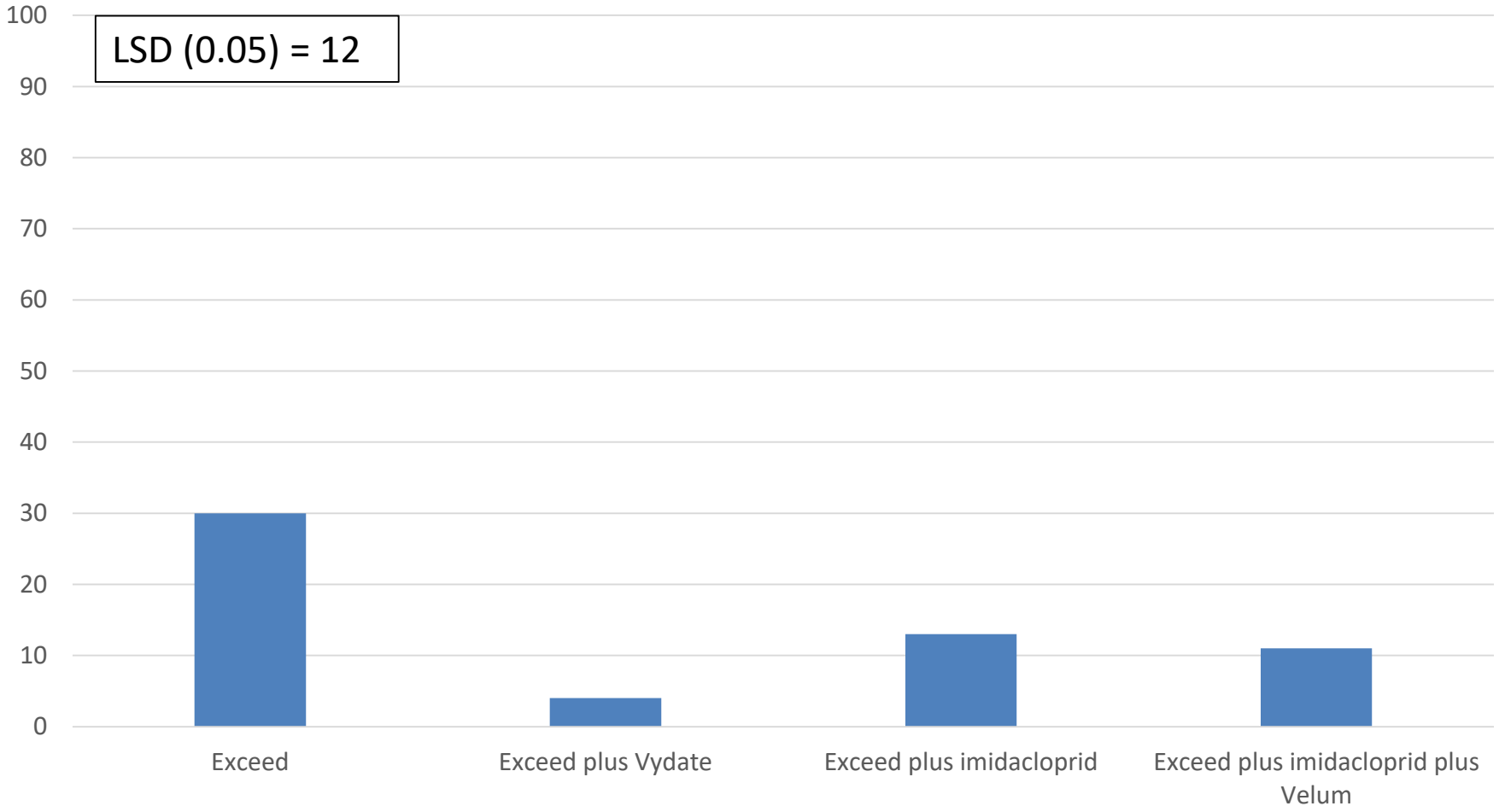
# Thrips Injury 2023

## Scale of 0-5 (0 = no injury and 5 = severe feeding and 90% stunting)



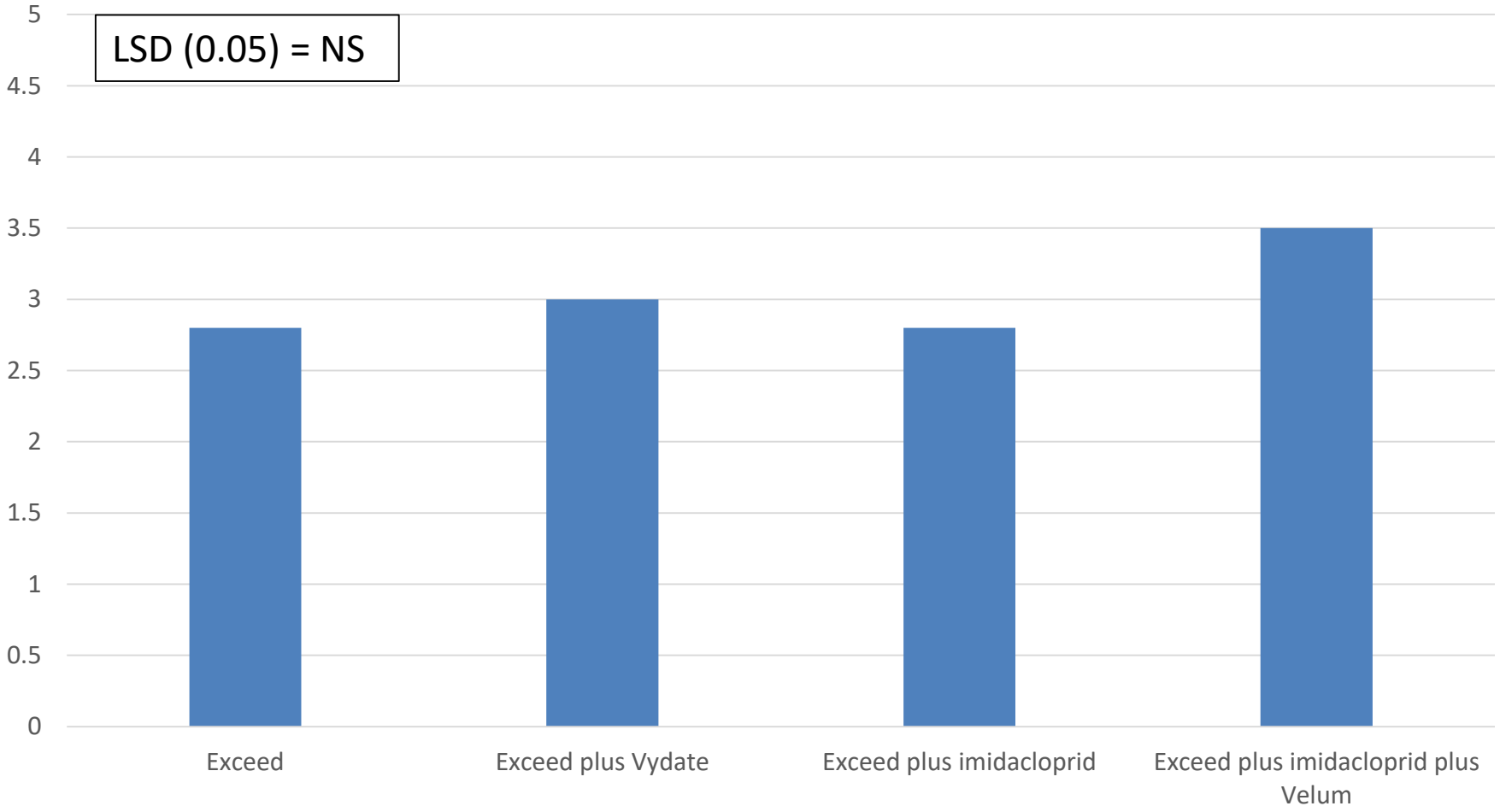
# Peanut Stunting on July 5, 2023

## Scale of 0-100% (0 = no stunting and 100 = plant death)

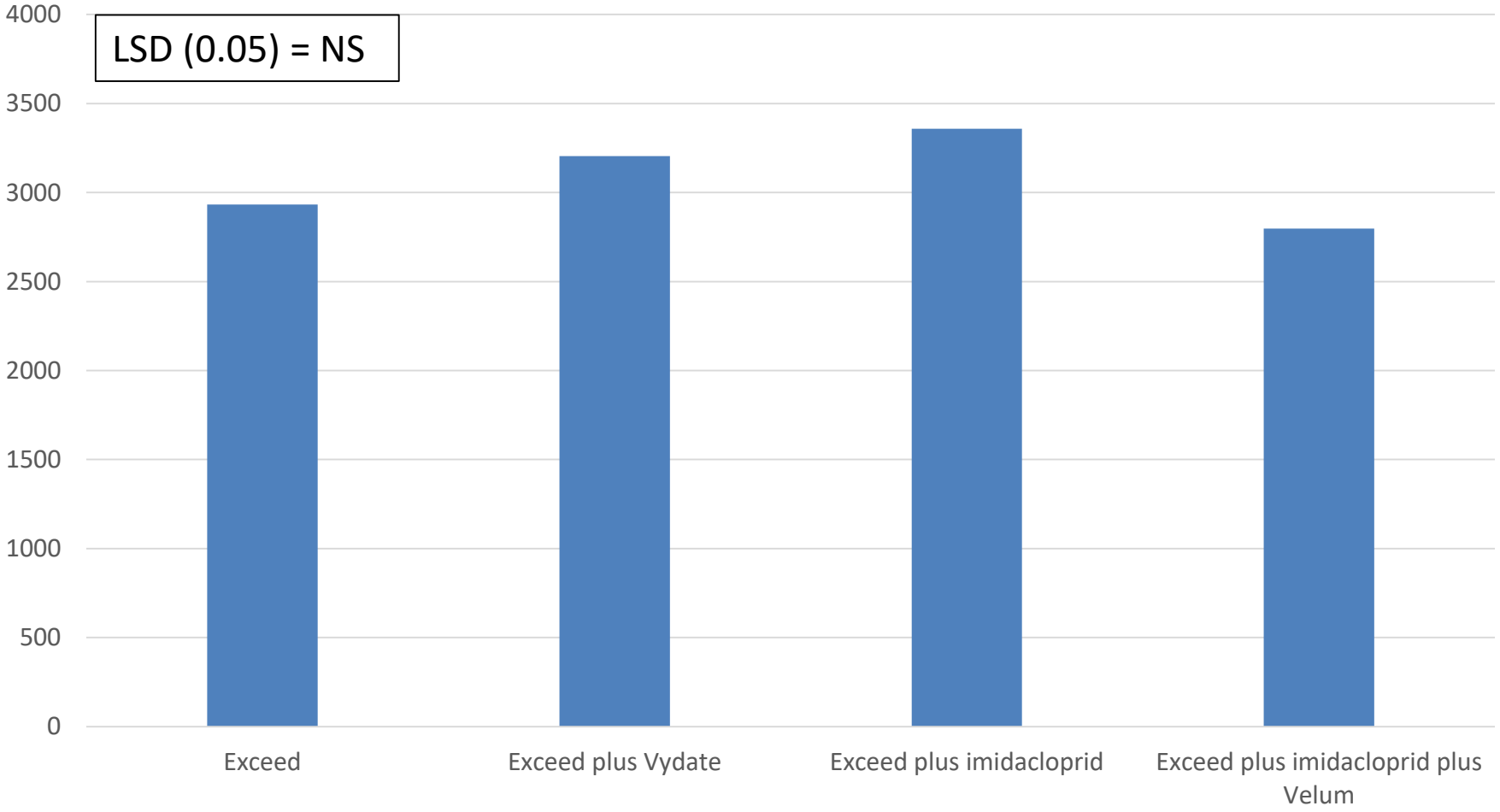


# Peanut Nodules on July 5, 2023

## Scale of 0-5 (0 = no nodules and 5 = abundant nodules)



# Peanut Yield in 2034 pounds/acre



Primo

Admire Pro plus
Primo

**2024**

Primo

Vydate plus Primo

**2024**

Primo

Admire Pro plus
Velum plus Primo

**2024**

Admire Pro plus Primo

Vydate plus Primo

Admire Pro plus Velum plus Primo

**2024**


**Financial support provided by the North Carolina Peanut Growers Association**