

# Northern Ohio Agronomy Update

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This week's topics include:

- Emergence Timing of Early Planted Crops
- Management of Winter Annual Weeds
- Corn and Soybean Stand Assessment

## Emergence Timing of Planted Crops

While some opportunities for planting progress have been available since mid-April, progress across the area has been variable. Some growers have finished planting corn and soybeans, other growers have gotten a start, and some growers have not yet done anything. Where planting progress has been able to proceed rapidly, soil conditions have consistently been described as “excellent” and “best in many years.”

After April began with below-normal temperatures, the trend moved to warmer temperatures for the later part of the month, with drastic swings in temperatures from day to day. The charts here show that while temperatures have varied, cold temperatures have remained minimal. The forecast over the next 4-5 days has cooled significantly, and – with accompanying clouds and rain showers, will slow the emergence process significantly.

After planting, corn and soybean development is strongly driven by soil temperatures. It is difficult to maintain accurate records of daily soil temperatures, so we often use air temperatures to estimate emergence timing. Soil temperatures usually don't change as much as air temperatures, but still fluctuate throughout the day, especially at a 2" depth.

While there can be significant variations based on management/environmental/soil conditions, the following are “rules of thumb” for emergence timing:

- Corn: aprx. 115-130 GDUs
- Soybeans: aprx. 90-120 GDUs

The charts here show when emergence is estimated based on planting date.

### Archbold, OH

|                         | Plant Date                                                                                                                                                                                     | High | Low | GDUs |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|
| Observed                | 4/13/2025                                                                                                                                                                                      | 58   | 34  | 4.0  |
|                         | 4/14/2025                                                                                                                                                                                      | 73   | 42  | 11.5 |
|                         | 4/15/2025                                                                                                                                                                                      | 51   | 39  | 0.5  |
|                         | 4/16/2025                                                                                                                                                                                      | 54   | 31  | 2.0  |
|                         | 4/17/2025                                                                                                                                                                                      | 64   | 28  | 7.0  |
|                         | 4/18/2025                                                                                                                                                                                      | 84   | 54  | 19.0 |
|                         | 4/19/2025                                                                                                                                                                                      | 70   | 48  | 10.0 |
|                         | 4/20/2025                                                                                                                                                                                      | 57   | 43  | 3.5  |
|                         | 4/21/2025                                                                                                                                                                                      | 69   | 47  | 9.5  |
|                         | 4/22/2025                                                                                                                                                                                      | 68   | 41  | 9.0  |
|                         | 4/23/2025                                                                                                                                                                                      | 79   | 46  | 14.5 |
|                         | 4/24/2025                                                                                                                                                                                      | 85   | 46  | 17.5 |
|                         | 4/25/2025                                                                                                                                                                                      | 78   | 60  | 19.0 |
|                         | 4/26/2025                                                                                                                                                                                      | 60   | 44  | 5.0  |
|                         | 4/27/2025                                                                                                                                                                                      | 66   | 37  | 8.0  |
|                         | 4/28/2025                                                                                                                                                                                      | 78   | 40  | 14.0 |
|                         | 4/29/2025                                                                                                                                                                                      | 84   | 53  | 18.5 |
| Forecast (Wunderground) | 4/30/2025                                                                                                                                                                                      | 65   | 39  | 7.5  |
|                         | 5/1/2025                                                                                                                                                                                       | 72   | 46  | 11.0 |
|                         | 5/2/2025                                                                                                                                                                                       | 68   | 48  | 9.0  |
|                         | 5/3/2025                                                                                                                                                                                       | 58   | 46  | 4.0  |
|                         | 5/4/2025                                                                                                                                                                                       | 53   | 48  | 1.5  |
|                         | 5/5/2025                                                                                                                                                                                       | 62   | 49  | 6.0  |
|                         | 5/6/2025                                                                                                                                                                                       | 67   | 50  | 8.5  |
|                         | 5/7/2025                                                                                                                                                                                       | 73   | 44  | 11.5 |
| Estimated Emergence     | 5/8/2025                                                                                                                                                                                       | 63   | 43  | 6.5  |
|                         | 5/9/2025                                                                                                                                                                                       | 69   | 47  | 9.5  |
|                         | 5/10/2025                                                                                                                                                                                      | 75   | 52  | 13.5 |
|                         | Soybeans may emerge slightly earlier than corn planted on the same day (based on current forecast)<br>Planted April 18: Emerged<br>Planted April 23: May 5-8<br>Planted April 29: After May 12 |      |     |      |

### Norwalk, OH

|                         | Plant Date                                                                                                                                                                                     | High | Low | GDUs |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|
| Observed                | 4/13/2025                                                                                                                                                                                      | 59   | 31  | 4.5  |
|                         | 4/14/2025                                                                                                                                                                                      | 74   | 50  | 12.0 |
|                         | 4/15/2025                                                                                                                                                                                      | 53   | 41  | 1.5  |
|                         | 4/16/2025                                                                                                                                                                                      | 53   | 34  | 1.5  |
|                         | 4/17/2025                                                                                                                                                                                      | 66   | 30  | 8.0  |
|                         | 4/18/2025                                                                                                                                                                                      | 84   | 55  | 19.5 |
|                         | 4/19/2025                                                                                                                                                                                      | 73   | 54  | 13.5 |
|                         | 4/20/2025                                                                                                                                                                                      | 56   | 44  | 3.0  |
|                         | 4/21/2025                                                                                                                                                                                      | 75   | 47  | 12.5 |
|                         | 4/22/2025                                                                                                                                                                                      | 69   | 48  | 9.5  |
|                         | 4/23/2025                                                                                                                                                                                      | 81   | 51  | 16.0 |
|                         | 4/24/2025                                                                                                                                                                                      | 86   | 50  | 18.0 |
|                         | 4/25/2025                                                                                                                                                                                      | 78   | 61  | 19.5 |
|                         | 4/26/2025                                                                                                                                                                                      | 63   | 41  | 6.5  |
|                         | 4/27/2025                                                                                                                                                                                      | 64   | 36  | 7.0  |
|                         | 4/28/2025                                                                                                                                                                                      | 80   | 39  | 15.0 |
|                         | 4/29/2025                                                                                                                                                                                      | 81   | 59  | 20.0 |
| Forecast (Wunderground) | 4/30/2025                                                                                                                                                                                      | 59   | 43  | 4.5  |
|                         | 5/1/2025                                                                                                                                                                                       | 80   | 48  | 15.0 |
|                         | 5/2/2025                                                                                                                                                                                       | 73   | 50  | 11.5 |
|                         | 5/3/2025                                                                                                                                                                                       | 54   | 47  | 2.0  |
|                         | 5/4/2025                                                                                                                                                                                       | 55   | 49  | 2.5  |
|                         | 5/5/2025                                                                                                                                                                                       | 65   | 51  | 8.0  |
|                         | 5/6/2025                                                                                                                                                                                       | 67   | 51  | 9.0  |
|                         | 5/7/2025                                                                                                                                                                                       | 72   | 48  | 11.0 |
| Estimated Emergence     | 5/8/2025                                                                                                                                                                                       | 57   | 46  | 3.5  |
|                         | 5/9/2025                                                                                                                                                                                       | 65   | 49  | 7.5  |
|                         | 5/10/2025                                                                                                                                                                                      | 71   | 53  | 12.0 |
|                         | Soybeans may emerge slightly earlier than corn planted on the same day (based on current forecast)<br>Planted April 18: Emerged<br>Planted April 23: May 5-8<br>Planted April 29: After May 11 |      |     |      |

Approximately 120 accumulated GDUs are required for emergence of corn and soybeans. This can increase based on soil type, residue cover, tillage practices, and more. Note: germination and emergence timing is based on Soil GDUs, which are likely to lag behind air GDUs.

## Management of Winter Annual Weeds

Now is the time to take note of problematic fields that have high infestations of winter annual weeds. While appropriate action is needed this spring, the better time to manage winter annual weeds is in the fall. Notes taken this spring can provide a nice reminder in the fall so that a targeted approach can be implemented.

Tillage or herbicide used in the spring usually do not effectively interrupt the life cycle of winter annual weeds and eradication is not achieved. Those problem fields become a problem again next year.

Many farmers waste time and fuel performing a second tillage pass due to winter annual weeds. Often the second tillage pass necessitated by the weeds causes the soil to be left “too fine” which can lead to other problems. This frustration is often long forgotten at fall herbicide application time; a good record will serve as a reminder. Common winter annual weeds seen in Ohio fields are henbit, chickweed, purple deadnettle, shepherd’s purse, cressleaf groundsel, and others.

### Winter annual weeds cause:

- A green cover that is attractive to many insect species (seed corn maggot, black cutworm, true armyworm, etc)
- Slower warm up of soils in the spring
- Serve as a host for soybean cyst nematodes
- Interfere with drying of the soil, potentially delaying planting or field work
- Increase the cost of spring burndown applications
- Create problems with tillage & seedbed uniformity.



## Corn and Soybean Stand Assessment

Stand Assessment help-sheet is available here:

<https://corteva.showpad.com/share/mfP3CWnjtnIQ42iJsquC1>

### Corn:

- 17'-5" is the length of 1 row (30" rows) equal to **1/1,000<sup>th</sup>** of an acre
- Acceptable stands vary based on soil type, ear flex, planting date, and expectations, but data shows that **consistent stands of at least 25,000 plants** planted in April or early May has similar potential to corn planted/replanted in late May or early June

Stand Counts

| Row Width | Length of Rows |
|-----------|----------------|
| 38 inches | 13 ft 9 in     |
| 36 inches | 14 ft 6 in     |
| 30 inches | 17 ft 5 in     |
| 22 inches | 23 ft 9 in     |
| 20 inches | 26 ft 2 in     |
| 15 inches | 34 ft 10 in    |

Row length to equal 1/1000<sup>th</sup> of an acre  
Count plants and multiply by 1,000

### Soybeans:

- 42" is the length of 1 row (15" rows) equal to 1/10,000<sup>th</sup> of an acre (13 plants in 42" of row equals 130,000 stand)
- For drilled beans, it is best to use a hoop for population (use the appropriate multiplication factor)
- Acceptable stands vary based on soil type, planting date, and expectations, but the following are general targets:
  - **Productive ground, aprx. 80,000 consistent stand**
  - **Tougher ground, aprx. 100,000 consistent stand**

Soybean Stand Counts

| Hoop Size | Multiplication Factor |
|-----------|-----------------------|
| 26        | 11,800                |
| 28        | 10,000                |
| 30        | 8,900                 |
| 32        | 7,800                 |
| 34        | 6,900                 |
| 36        | 6,200                 |

Hula Hoop preferred for drilled beans. Count plants in hoop and multiply by factor for estimated plants per acre. Repeat in several areas for an average.

| Row Width | Row length for 1/10,000th of an acre |
|-----------|--------------------------------------|
| 7.5"      | 84"                                  |
| 10"       | 63"                                  |
| 15"       | 42"                                  |
| 20"       | 31"                                  |
| 30"       | 21"                                  |

Count plants in length of row  
Multiply by 10,000  
Repeat in several areas for an average

If stands are thin, it is best to add to the stand (plant at an angle) rather than tearing up the stand and starting over. In most replant scenarios, surviving plants from the original planting still provide a majority of the yield, even at low populations, due to the advantage of being planted earlier.