Northern Ohio Agronomy Update

May 2, 2025 John Schoenhals, Pioneer Field Agronomist

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.

Archbold, OH

Plant Date

4/15/2025

4/19/2025

4/20/2025

4/21/2025

4/22/2025

4/23/2025

4/24/2025

4/26/2025

4/27/2025

5/10/2025

Estimated E

Soybeans may emerge

Observed

Forecast (Wunderground)

Norwalk, OH

Plant Date	High	Low	GDUs			Plant Date	High	Low	GDUs
4/13/2025	58	34	4.0			4/13/2025	59	31	4.5
4/14/2025	73	42	11.5			4/14/2025	74	50	12.0
4/15/2025	51	39	0.5			4/15/2025	53	41	1.5
4/16/2025	54	31	2.0			4/16/2025	53	34	1.5
4/17/2025	64	28	7.0			4/17/2025	66	30	8.0
4/18/2025	84	54	19.0		Observed	4/18/2025	84	55	19.5
4/19/2025	70	48	10.0			4/19/2025	73	54	13.5
4/20/2025	57	43	3.5			4/20/2025	56	44	3.0
4/21/2025	69	47	9.5			4/21/2025	75	47	12.5
4/22/2025	68	41	9.0			4/22/2025	69	48	9.5
4/23/2025	79	46	14.5			4/23/2025	81	51	16.0
4/24/2025	85	46	17.5			4/24/2025	86	50	18.0
4/25/2025	78	60	19.0			4/25/2025	78	61	19.5
4/26/2025	60	44	5.0			4/26/2025	63	41	6.5
4/27/2025	66	37	8.0			4/27/2025	64	36	7.0
4/28/2025	78	40	14.0			4/28/2025	80	39	15.0
4/29/2025	84	53	18.5			4/29/2025	81	59	20.0
4/30/2025	65	39	7.5			4/30/2025	59	43	4.5
5/1/2025	72	46	11.0			5/1/2025	80	48	15.0
5/2/2025	68	48	9.0		d)	5/2/2025	73	50	11.5
5/3/2025	58	46	4.0		nn	5/3/2025	54	47	2.0
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5/6/2025	67	50	8.5		/nn	5/6/2025	67	51	9.0
5/7/2025	73	44	11.5		Ś	5/7/2025	72	48	11.0
5/8/2025	63	43	6.5		cast	5/8/2025	57	46	3.5
5/9/2025	69	47	9.5		ore	5/9/2025	65	49	7.5
5/10/2025	75	52	13.5		Ĕ	5/10/2025	71	53	12.0
timated Emergence ans may emerge slightly earlier than corn planted on the same day (based on current forecast) Planted April 18: Emerged Planted April 23: May 5-8 Planted April 29: After May 12					E Soy	Stimate beans may em corn plante (based or Planted A Planted Ao	d Em erge slig d on the current fo pril 18: E April 23: I ril 29: Aft	erge htly earli same da recast) merged May 5-8 ter May 1	NCE ier than y

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.

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.

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

<u>Corn:</u>

- 17'-5" is the length of 1 row (30" rows) equal to 1/1,000th 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

Soybeans:

- 42" is the length of 1 row (15" rows) equal to 1/10,000th 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

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.

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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 1/1000th of an acre Count plants and multiply by 1,000

Soybean Stand Counts

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

Multiplication Hoop Size 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.