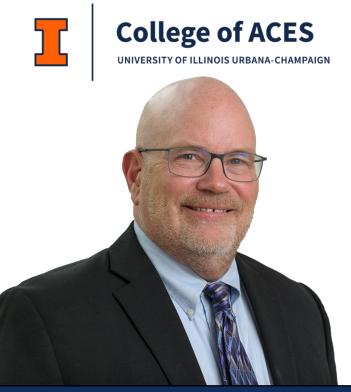
10 years of PCM Data What Actually Pays on Your farm





Gary Schnitkey

farmdoc

Laura Gentry



Tillage



Tillage Benchmark

No-till: No tillage passes

Note:

Tillage Benchmark relates to number of tillage pass

Strip tillage: In-row tillage with a strip-till bar

One-Pass Light: One low-disturbance tillage pass

Two-Pass Light: Two low-disturbance tillage passes

2-Pass Moderate: One low-disturbance and one higher-disturbance tillage pass

2+ Pass: More than 2 tillage passes, any kind



Corn, High SPR, 2024: Bottom 25% vs Top 25%, Net Returns

| | | 以下面的建设人工在2000人 。由 | |
|------------------------|---------|--------------------------|------------|
| | Low 25% | High 25% | High - low |
| Yield | 221 | 259 | 37 |
| Non-land Costs | \$818 | \$703 | -\$115 |
| Direct costs | \$587 | \$476 | -\$111 |
| Power costs | \$176 | \$172 | -\$4 |
| Overhead costs | \$55 | \$55 | 0 |
| Operator & land Return | \$78 | \$366 | \$288 |
| Tillage type | | | |
| No-till | 18% | 25% | |
| Strip Till | 37% | 21% | |
| One-pass light | 17% | 28% | |
| Two-pass moderate | 7% | 6% | |
| ILLINOIS | P | CM | |

Corn, High SPR, 2024 - Top 25% Most Profitable Fields

| | No-till | Strip-till | One-pass Light | Two-pass Moderate |
|------------------------|---------|------------|-------------------|----------------------|
| Yield | 260 | 262 | 258 | 257 |
| Non-land Costs | \$678 | \$744 | 687 | \$726 |
| Direct costs | \$468 | \$515 | \$468 | \$492 |
| Power costs | \$154 | \$174 | \$164 | \$179 |
| Overhead costs | \$55 | \$55 | \$55 | \$55 |
| Operator & land Return | \$385 | \$323 | \$375 | \$319 |
| Nitrogen rate/ acre | 205 | 198 | 209 | 202 |

| Corn HIGH-SPR 2015-24 AVG VALUES | NO-TILL | STRIP-TILL | 1-PASS LIGHT | 2-PASS LIGHT | 2-PASS MODERATE | 2+ TILLAGE PASSES |
|---|---------|------------|-----------------|-----------------|--------------------|-------------------------|
| # of fields | 1,534 | 2,102 | 2,310 | 835 | 986 | 131 |
| Yield per acre | 221 | 224 | 224 | 229 | 229 | 226 |
| GROSS REVENUE | \$948 | \$958 | \$956 | \$978 | \$980 | \$971 |
| TOTAL DIRECT COSTS* | \$447 | \$467 | \$442 | \$455 | \$463 | \$461 |
| Field work | \$0 | \$22 | \$12 | \$26 | \$30 | \$43 |
| Other power costs** | \$113 | \$106 | \$109 | \$108 | \$106 | \$110 |
| TOTAL POWER COSTS | \$113 | \$128 | \$121 | \$134 | \$136 | \$153 |
| OVERHEAD COSTS | \$41 | \$41 | \$41 | \$41 | \$41 | \$41 |
| TOTAL NON-LAND COSTS | \$601 | \$636 | \$604 | \$630 | \$640 | \$654 |
| OPERATOR & LAND RETURN | \$347 | \$322 | \$352 | \$348 | \$340 | \$315 |
| Estimated soil Loss (tons/a) | 0.68 | 0.63 | 1.93 | 1.83 | 1.62 | 2.21 |
| Soil Carbon Index (-1 to 1, higher=better) | 0.72 | 0.81 | 0.55 | 0.59 | 0.57 | 0.49 |
| GHG emissions (metric tons CO2e/a) | 0. | 69 | | 0.85 | | 1.00 |







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Corn, High SPR, 2015-2024 – No-Till vs. 1-Pass Light

| | No-Till | 1-pass |
|----------------------|---------|--------|
| Yield (bushels) | 221 | 224 |
| Revenue | \$948 | \$956 |
| | | |
| Direct costs | \$447 | \$442 |
| Power costs | \$113 | \$121 |
| Overhead costs | \$41 | \$41 |
| Total non-land costs | \$601 | \$604 |

| Operator and | \$347 | \$352 |
|--------------|-------|-------|
| land return | γστι | 7552 |

Direct costs:

Seed, chemicals, fertilizer, drying, storage, crop insurance

Power costs:

All costs related to machinery

Overhead costs: Hired labor, general insurance, buildings, interest

Return remaining to pay farmer and land.



Corn, High SPR, 2015-2024 – Tillage Passes

| | 1-pass | 2-pass Light | 2-pass Moderate | 2+ |
|----------------------|--------|-----------------|--------------------|--------------|
| Yield (bushels) | 224 | 229 | 229 | 226 |
| Revenue | \$956 | \$978 | \$980 | \$971 |
| | | | | |
| Direct costs | \$442 | \$455 | \$463 | \$461 |
| Power costs | \$121 | \$134 | \$136 | \$153 |
| Overhead costs | \$41 | \$41 | \$41 | \$41 |
| Total non-land costs | \$604 | \$630 | \$640 | \$654 |

Higher yields with more tillage but

- Power costs increase
- Direct costs increase

| Operator and | \$352 | \$348 | \$340 | \$315 |
|--------------|-------------|-------------|-------------|-------|
| land return | 335Z | 3340 | 3340 | 3313 |

Farmer with more tillage had lower returns

| Corn HIGH-SPR 2015-24 AVG VALUES | NO-TILL | STRIP-TILL | 1-PASS LIGHT | 2-PASS LIGHT | 2-PASS MODERATE | 2+ TILLAGE PASSES |
|---|---------|------------|-----------------|-----------------|--------------------|-------------------------|
| # of fields | 1,534 | 2,102 | 2,310 | 835 | 986 | 131 |
| Yield per acre | 221 | 224 | 224 | 229 | 229 | 226 |
| GROSS REVENUE | \$948 | \$958 | \$956 | \$978 | \$980 | \$971 |
| TOTAL DIRECT COSTS* | \$447 | \$467 | \$442 | \$455 | \$463 | \$461 |
| Field work | \$0 | \$22 | \$12 | \$26 | \$30 | \$43 |
| Other power costs** | \$113 | \$106 | \$109 | \$108 | \$106 | \$110 |
| TOTAL POWER COSTS | \$113 | \$128 | \$121 | \$134 | \$136 | \$153 |
| OVERHEAD COSTS | \$41 | \$41 | \$41 | \$41 | \$41 | \$41 |
| TOTAL NON-LAND COSTS | \$601 | \$636 | \$604 | \$630 | \$640 | \$654 |
| OPERATOR & LAND RETURN | \$347 | \$322 | \$352 | \$348 | \$340 | \$315 |
| Estimated soil Loss (tons/a) | 0.68 | 0.63 | 1.93 | 1.83 | 1.62 | 2.21 |
| Soil Carbon Index (-1 to 1, higher=better) | 0.72 | 0.81 | 0.55 | 0.59 | 0.57 | 0.49 |
| GHG emissions (metric tons CO2e/a) | 0. | 69 | | 0.85 | | 1.00 |







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What PCM Farmers are Saying...

According to survey responses following the 2025 PCM Report deliveries:

√ 67% of PCM farmers who don't already use reduced tillage practices are likely to reduce or eliminate tillage





















Soybean, High SPR, 2024: Bottom 25% vs. Top 25%, Net Return

| | Low 25% | High 25% | High - low |
|------------------------|----------------|----------|------------|
| Yield | 65 | 82 | 17 |
| Non-land Costs | \$470 | \$396 | -\$74 |
| Direct costs | \$290 | \$221 | -\$69 |
| Power costs | \$132 | \$127 | -\$4 |
| Overhead costs | \$48 | \$48 | 0 |
| Operator & land Return | \$78 | \$366 | \$288 |
| Tillage type | | | |
| No-till | 60% | 40% | |
| Strip Till | 9% | 4% | |
| One-pass light | 1% | 25% | |
| Two-pass moderate | 3% | 15% | |

| Soybean HIGH-SPR 2015-24 AVG VALUES | NO-TILL | STRIP-TILL | 1-PASS LIGHT | 2-PASS LIGHT | 2-PASS MODERATE | 2+ TILLAGE PASSES | |
|---|---------|------------|-----------------|-----------------|--------------------|-------------------------|--|
| # of fields | 3,691 | 263 | 1,146 | 352 | 1,103 | 514 | |
| Yield per acre | 68 | 73 | 71 | 71 | 73 | 71 | |
| GROSS REVENUE | \$728 | \$780 | \$754 | \$758 | \$775 | \$757 | |
| TOTAL DIRECT COSTS* | \$182 | \$230 | \$178 | \$175 | \$186 | \$166 | |
| Field work | \$0 | \$20 | \$13 | \$27 | \$29 | \$50 | |
| Other power costs** | \$85 | \$83 | \$84 | \$76 | \$78 | \$75 | |
| TOTAL POWER COSTS | \$85 | \$103 | \$97 | \$103 | \$107 | \$125 | |
| OVERHEAD COSTS | \$34 | \$35 | \$34 | \$34 | \$34 | \$34 | |
| TOTAL NON-LAND COSTS | \$301 | \$367 | \$309 | \$312 | \$327 | \$325 | |
| OPERATOR & LAND RETURN | \$427 | \$413 | \$444 | \$446 | \$448 | \$432 | |
| Estimated soil loss (tons/a) | 1.24 | 0.76 | 1.86 | 2.47 | 2.74 | 4.46 | |
| Soil Carbon Index (-1 to 1, higher=better) | 0.48 | 0.62 | 0.42 | 0.35 | 0.22 | 0.00 | |
| GHG emissions (metric tons CO2e/a) | -0 | .10 | | 0.05 | | 0.17 | |







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Why do no-till soybeans have lower net returns?

- About 10% of 2024 soybean fields were non-GMO
- Most non-GMO fields used some tillage (i.e. were not no-tilled)
- About one-third of 2024 soybean fields were cover cropped and most of the cover cropped fields were also no-till



Soybean, High **SPR, 2024 -**Conventional **Versus** Non-GMO Top 25% Most **Profitable**

| | Conventional | Non-GMO |
|------------------------|--------------|---------|
| Yield | 75 | 78 |
| Revenue | \$789 | \$991 |
| Non-land Costs | \$416 | \$419 |
| Direct costs | \$253 | \$240 |
| Power costs | \$115 | \$131 |
| Overhead costs | 48 | \$48 |
| Operator & land Return | \$373 | \$572 |
| Tillage type | | |
| No-till | 48% | 12% |
| Strip Till | 5% | 8% |
| One-pass light | 17% | 12% |
| Two-pass moderate | 18% | 37% |





Soybean, High SPR, by Year GMO vs. Non-GMO, *Excluding cover crops*

| | | Conventional | | | |
|---------|---------|--------------|-------------------|----------------------|--|
| Year | Non-GMO | No-Till | One-Pass Light | One-Pass Moderate | |
| 2020 | \$521 | \$384 | \$418 | \$385 | |
| 2021 | \$771 | \$606 | \$604 | \$633 | |
| 2022 | \$719 | \$572 | \$564 | \$594 | |
| 2023 | \$709 | \$526 | \$546 | \$536 | |
| 2024 | \$573 | \$369 | \$389 | \$362 | |
| Average | \$659 | \$491 | \$504 | \$502 | |





Results per acre Soybeans High SPR, 2015 to 2024

- No-till soybean has slightly reduced yield vs. tilled
- No-till has a slight increase in direct costs vs. tilled
- No-till has slightly lower power costs vs. tilled
- There is a yield and profitability advantage to doing some tillage for soybean





| Corn HIGH-SPR 2015-24 AVG VALUES | OVERWINTERING | WINTER TERMINAL | NO COVER CROP |
|---------------------------------------|---------------|-----------------|---------------|
| # of fields | 753 | 334 | 6,892 |
| Yield per acre | 218 | 222 | 226 |
| Soil Productivity Rating (SPR) | 138 | 140 | 140 |
| GROSS REVENUE | \$945 | \$952 | \$966 |
| COVER CROP SEED | \$16 | \$15 | \$0 |
| TOTAL DIRECT COSTS* | \$459 | \$451 | \$454 |
| COVER CROP PLANTING | \$12 | \$15 | \$0 |
| Other power costs** | \$134 \$120 | | \$124 |
| TOTAL POWER COSTS | \$146 | \$135 | \$124 |
| OVERHEAD COSTS | \$41 | \$41 | \$41 |
| TOTAL NON-LAND COSTS | \$646 | \$627 | \$619 |
| OPERATOR & LAND RETURN | \$274-\$324 | \$300-\$350 | \$347 |
| Estimated soil loss (tons/a) | 0.82 | 1.08 | 1.41 |
| GHG emissions (metric tons CO2e/a) | 0.49 0.80 | | |



Precision Conservation Management





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Why More Challenging Ahead of Corn?

Agronomics make cover crops more difficult

- Corn is less tolerant of stress compared to soybeans
- Cover crops sequester nitrogen, needed by corn

Timing of cover crop planting and termination becomes more difficult

Costs are more difficult to control





| Soybean HIGH-SPR 2015-24 AVG VALUES | OVEDWINTERING | WINTER TERMINAL | NO COVER CROP |
|--|------------------------|-----------------|---------------|
| | OVERWINTERING 1 740 | | |
| # of fields | 1,769 | 63 | 5,344 |
| Yield per acre | 68 | 71 | 71 |
| Soil Productivity Rating (SPR) | 139 | 140 | 140 |
| GROSS REVENUE | \$727 | \$768 | \$752 |
| COVER CROP SEED | \$14 | \$17 | \$0 |
| TOTAL DIRECT COSTS* | \$184 | \$191 | \$181 |
| COVER CROP PLANTING | \$11 | \$16 | \$0 |
| Other power costs** | \$99 | \$80 | \$92 |
| TOTAL POWER COSTS | \$110 | \$96 | \$92 |
| OVERHEAD COSTS | \$34 \$35 | | \$34 |
| TOTAL NON-LAND COSTS | \$329 \$321 | | \$307 |
| OPERATOR & LAND RETURN | \$374-\$424 | \$422-\$472 | \$445 |
| Estimated soil loss (tons/a) | 1.30 | 1.53 | 2.06 |
| GHG emissions (metric tons CO2e/a) | -0.26 0.00 | | |







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Planting timing and method

Plant after corn harvest

Method varies

- Broadcast with dry fertilizer
 Low cost but poorer establishment
- Broadcast and then light tillage pass with vertical tillage Moderate costs, better establishment
- **Drill or plant**High costs, but good establishment, more labor/time intensive
- Attachments to combine

 Eliminates tillage pass, generally lower costs, slows/complicates harvest



Termination of cover crops

Plant soybeans early!!

Termination:

- Before planting (Reduces risk of cover crop competing with soybeans, decreases chance of eliminating herbicide passes)
- After planting (Increases risk of cover crop competing with soybeans, increases chance of eliminating herbicide passes)

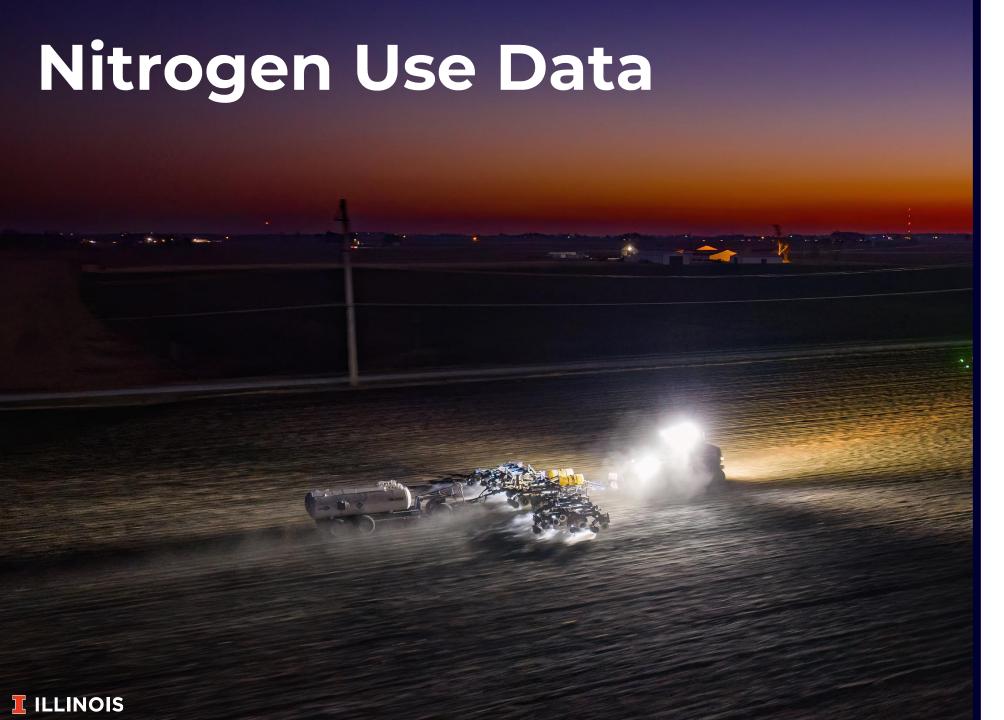
Reduction in herbicide costs and increase in weed control is a benefit of planting cover crops

What PCM Farmers are Saying...

According to survey responses following the 2025 PCM Report deliveries:

- √ 67% of PCM farmers who don't already use reduced tillage practices are likely to reduce or eliminate tillage
- √ 70% of PCM farmers who don't already use cover crops on their whole farm are likely to try or expand cover crop use.





















| Corn HIGH-SPR, N TIMING I 2015-24 AVG VALUES | >40% FALL | MOSTLY PREPLANT | MOSTLY SIDEDRESS | 50% PRE/ 50% SIDEDRESS | 3-WAY SPLIT |
|---|--------------|--------------------|---------------------|------------------------------|----------------|
| NUE (lb N/bu grain) | 0.96 | 0.90 | 0.89 | 0.92 | 0.91 |
| # fields | 3,326 | 1,589 | 1,807 | 556 | 701 |
| Yield per acre | 226 | 221 | 225 | 224 | 228 |
| GROSS REVENUE | \$968 | \$945 | \$958 | \$957 | \$977 |
| N fertilizer | \$104 | \$98 | \$97 | \$110 | \$106 |
| Other direct costs | \$357 | \$330 | \$347 | \$356 | \$380 |
| TOTAL DIRECT COSTS* | \$461 | \$428 | \$444 | \$466 | \$486 |
| Field work | \$17 | \$16 | \$18 | \$17 | \$20 |
| Other power costs** | \$110 | \$104 | \$108 | \$108 | \$109 |
| TOTAL POWER COSTS | \$127 | \$120 | \$126 | \$125 | \$129 |
| OVERHEAD COSTS | \$41 | \$41 | \$41 | \$41 | \$41 |
| TOTAL NON-LAND COSTS | \$629 | \$589 | \$612 | \$632 | \$656 |
| OPERATOR & LAND RETURN | \$338 | \$356 | \$347 | \$325 | \$321 |







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Returns for different N Rate

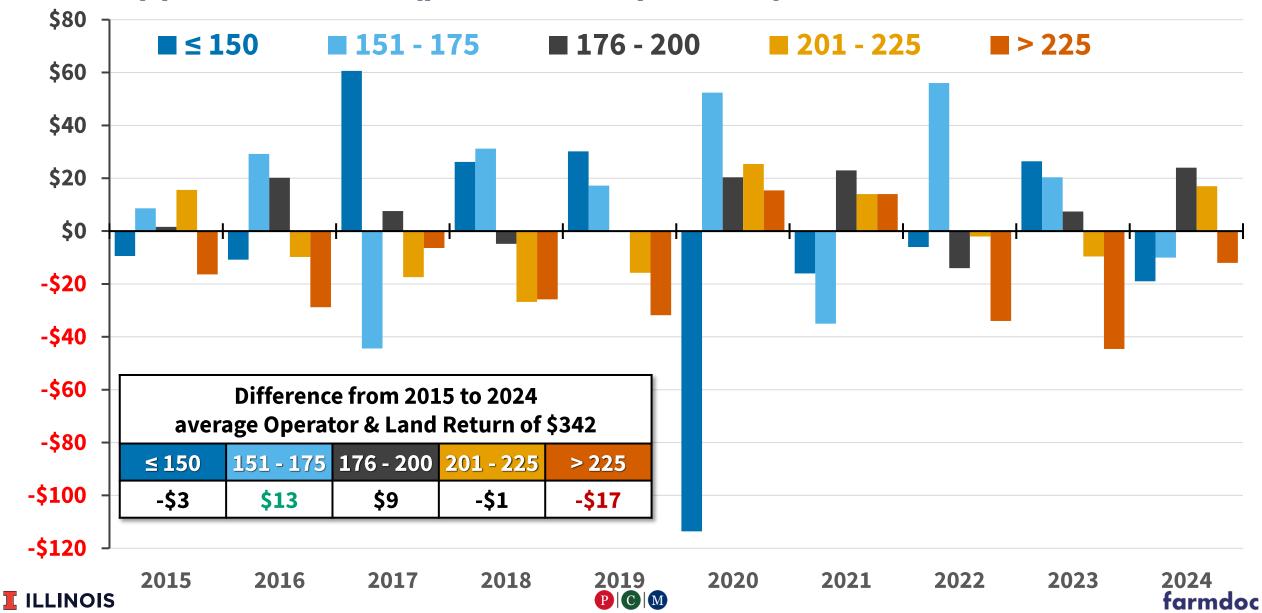
| Corn N RATE, HIGH SPR, LBS PER ACRE I 2015-23 AVG VALUES | <150 | 151-175 | 176-200 | 201-225 | >225 |
|--|-------|---------|---------|---------|-------|
| # fields | 181 | 599 | 1,854 | 2,558 | 1,430 |
| AVG Corn Yield (bu/a) 2015-23 | 208 | 218 | 220 | 223 | 229 |
| OPERATOR & LAND RETURN | \$361 | \$371 | \$365 | \$354 | \$346 |
| GHG emissions (metric tons CO2e/a) | 0.38 | 0.61 | 0.66 | 0.74 | 0.9 |

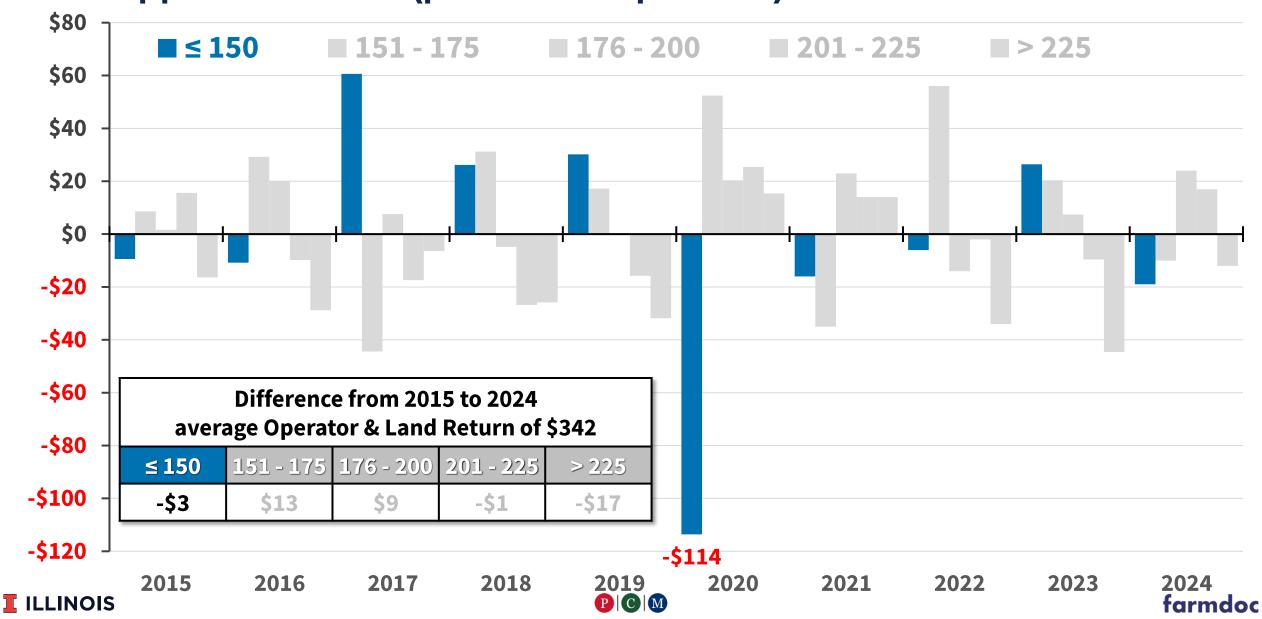


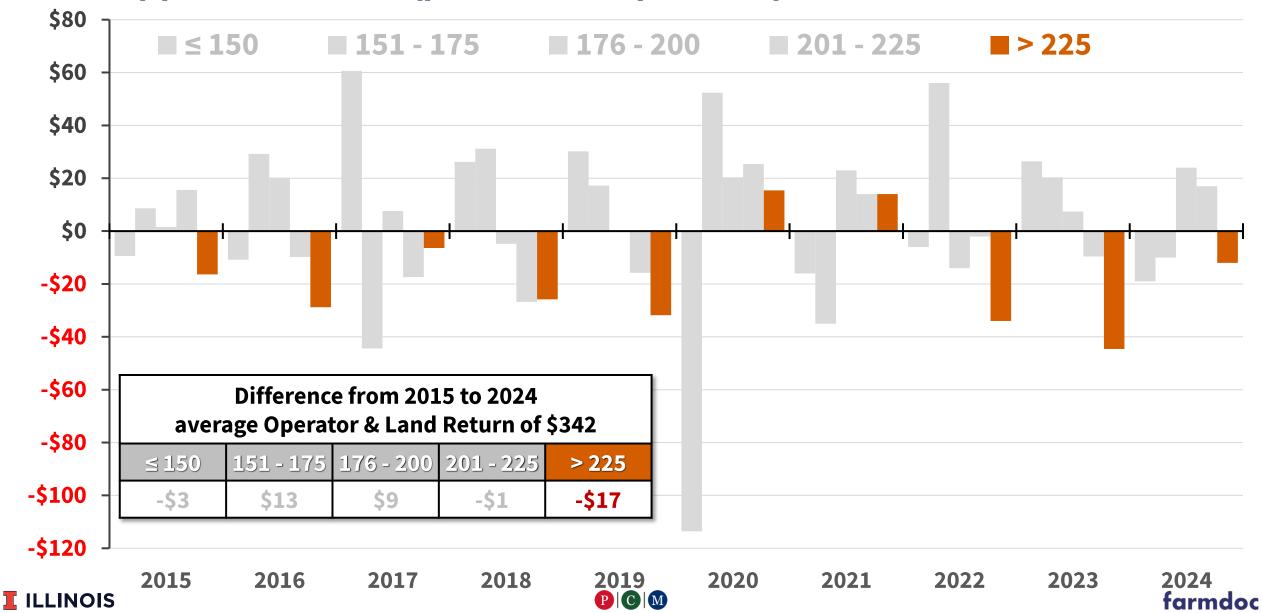


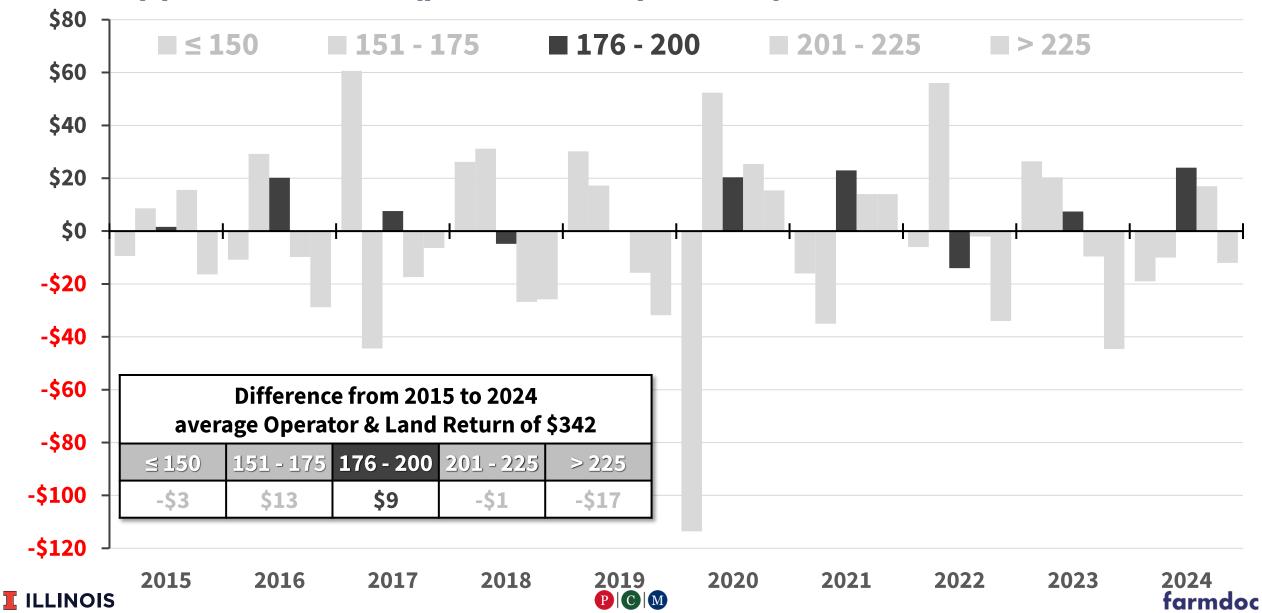
Operator and Land Return by Nitrogen Rate Application Class

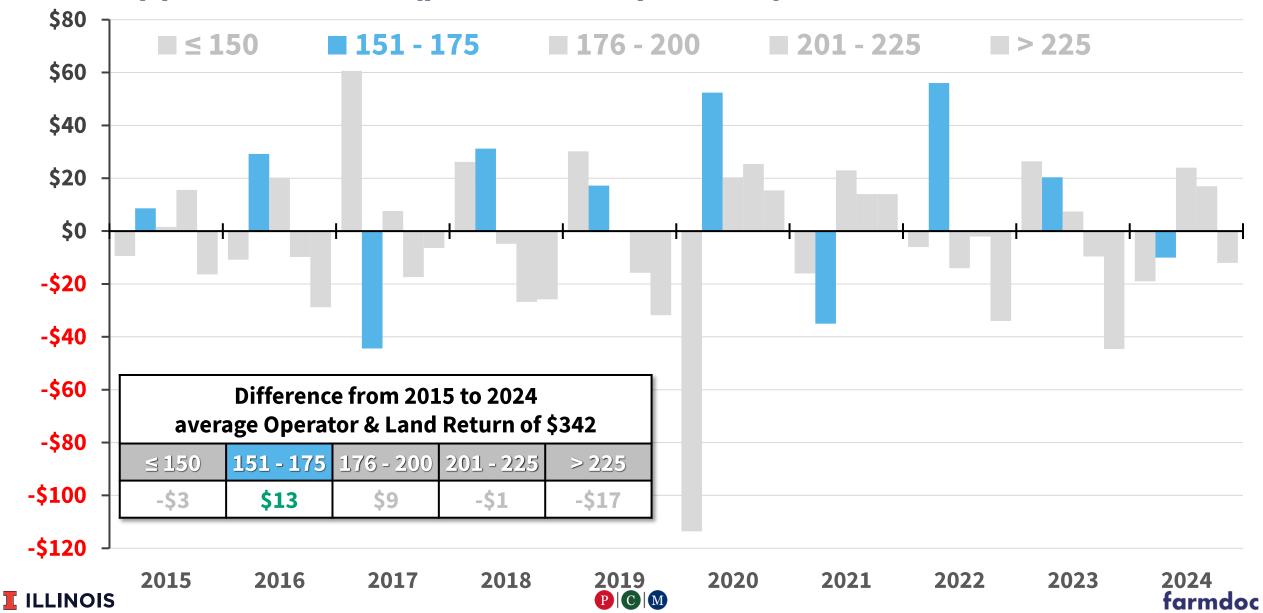
| Year | ≤ 150 | 151 - 175 | 176 - 200 | 201 - 225 | > 225 | Average |
|---------|--------------|-----------|-----------|-----------|-------|---------|
| 2015 | \$197 | \$215 | \$208 | \$222 | \$190 | \$206 |
| 2016 | \$246 | \$286 | \$277 | \$247 | \$228 | \$257 |
| 2017 | \$272 | \$167 | \$219 | \$194 | \$205 | \$211 |
| 2018 | \$360 | \$365 | \$329 | \$307 | \$308 | \$334 |
| 2019 | \$297 | \$284 | \$267 | \$251 | \$235 | \$267 |
| 2020 | \$174 | \$340 | \$308 | \$313 | \$303 | \$288 |
| 2021 | \$559 | \$540 | \$598 | \$589 | \$589 | \$575 |
| 2022 | \$761 | \$823 | \$753 | \$765 | \$733 | \$767 |
| 2023 | \$316 | \$310 | \$297 | \$280 | \$245 | \$290 |
| 2024 | \$210 | \$219 | \$253 | \$246 | \$217 | \$229 |
| Average | \$339 | \$355 | \$351 | \$341 | \$325 | \$342 |











What PCM Farmers are Saying...

According to survey responses following the 2025 PCM Report deliveries:

- √ 67% of PCM farmers who don't already use reduced tillage practices are likely to reduce or eliminate tillage
- √ 70% of PCM who don't already use cover crops on their whole farm are likely to try or expand cover crop use.
- ✓ 68% of PCM farmers who don't already use MRTN rates are likely to apply nitrogen using the MRTN recommendation
- √ 66% of PCM farmers who don't already apply nitrogen in-season
 are likely to apply in-season



Position farmers to benefit from positive environmental outcomes with soil health incentive programs.



Farmers for Soil Health



| Year 1 | \$25 |
|--------|------|
| Year 2 | \$15 |
| Year 3 | \$10 |





Soil Health Incentives

| Cover Crops | \$15/acre (year 1&2) \$10/acre (year 3+) |
|--------------------|---|
| Tillage Reductions | \$10/acre (year 1&2) \$5/acre (year 3+) |
| 10% N reduction | \$10/acre 1 st year |











TECHNICAL ASSISTANCE

PCM Farmers recieve ongoing one-on-one support from their regional Specialist including data collection, agronomic recommendations, and data review.



COST-SHARE OPPORTUNITIES

PCM Supply Chain Partnerships create a financial advantage for farmers who use reduced tillage, nitrogen management, and/or cover crops.



DATA ANALYSIS

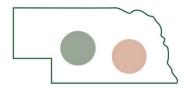
Secure personal data analysis PLUS aggregated, anonymized data demonstrating financial and environmental impact of practices.



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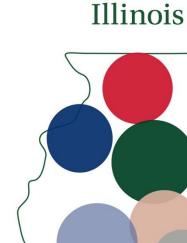
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