

What is PCM?

Driving Profitability Through Conservation and Data



Precision Conservation Management



College of Agricultural,
Consumer &
Environmental Sciences

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Megan Miller



Greg Goodwin

farmdoc



Precision Conservation Management



About PCM



*The premier conservation program of the IL Corn Growers Association serving **Illinois, Nebraska and Kentucky.***

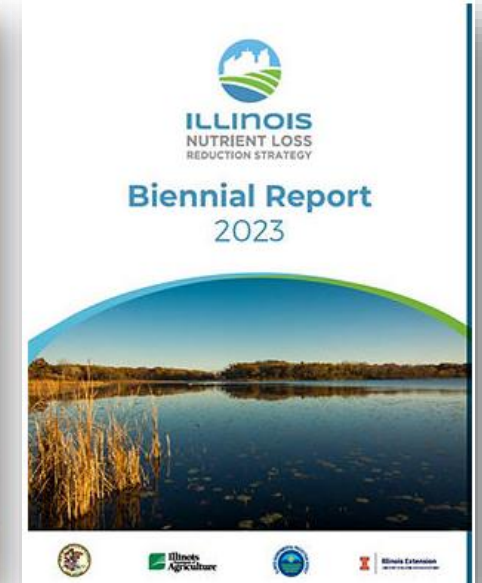
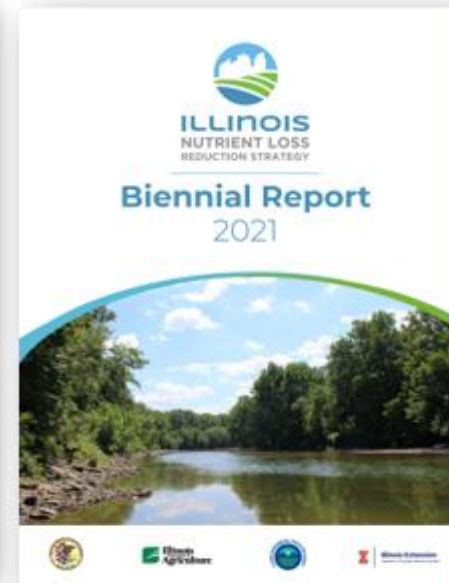
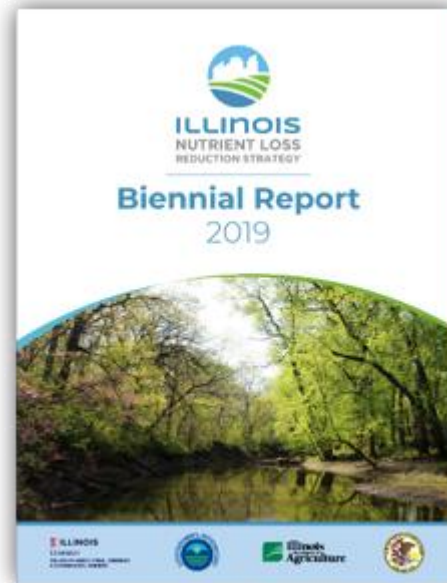
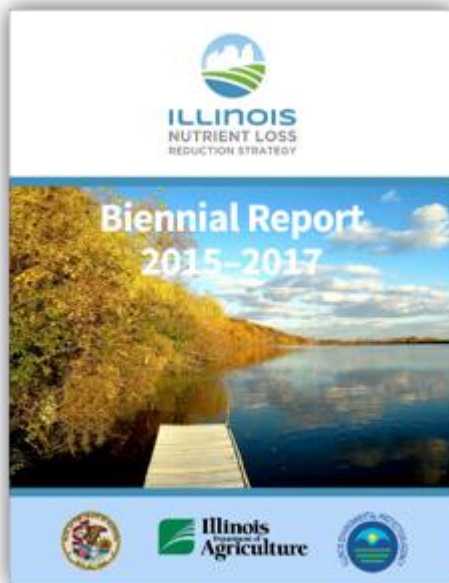
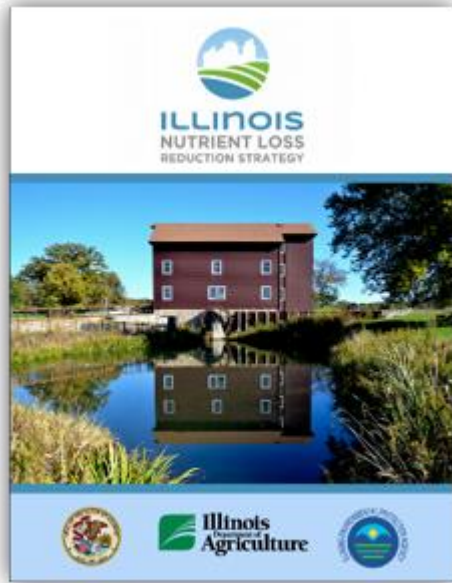


ILCORN
WWW.ILCORN.ORG

About PCM



Created as a response to the *Illinois Nutrient Loss Reduction Strategy*



Goal: 45% Reduction in **Total N & Total P** Losses by **2035**

Interim: 15% Reduction in $\text{NO}_3\text{-N}$ & **25% Reduction** in Total P by **2025**

Understand how conservation practices impact farm net returns.



Address water quality concerns. Prevent agricultural regulation.



Position farmers to benefit from positive conservation outcomes.



Farmers get access to:

- **1-on-1 technical support**
- **Data collection platform**
- **Agronomy resources and expertise**



Provide farmers individualized yearly RAAP report featuring:



- **Financial and Sustainability benchmarking**
- **Economic cost tables**
- **Environmental assessments**

How we work with Farmers:



- **\$750 participation payment**
- **Exclusive program offers cost share, other practice assistance**
- **Peer to Peer education & networking opportunities**



PEPSICO

Cargill



Walmart



The Nature Conservancy



BUNGE

American Farmland Trust
SAVING THE LAND THAT SUSTAINS US



ADM

The WALTON FAMILY FOUNDATION



MIDWEST ROW CROP COLLABORATIVE

USDA **NRCS**
U.S. Department of Agriculture
Natural Resources Conservation Service

USGS
science for a changing world

NFWF

Precision Conservation Management
PrecisionConservation.org

Partners



ILLINOIS FARM BUREAU
Farm. Family. Food.™

pork

BECK'S

Environmental Defense Fund



SUSTAINABLE FOOD LAB

Illinois Pork Producers.
Generations of Commitment.

ESMC
Ecosystem Services Market Consortium



FFAR **KyCorn**

KFBM



Field to Market
The Alliance for Sustainable Agriculture

ILCORN
WWW.ILCORN.ORG

HEARTLAND
Science and Technology

FBFM

I ILLINOIS

ILLINOIS SOYBEAN ASSOCIATION

Participation Stats



PCM - Growing Stronger Every Day

 524+

FARMERS

 560,000+

ACRES

 10+

YEARS

 30+

PARTNERS

PCM Specialists



Precision Conservation Management

ILLINOIS



Lou Liva
PCM Specialist

Rock Island, Mercer, Knox, & Henry



Andrew Hiser
PCM Specialist

Christian, Macon, Macoupin, & Sangamon



Andrea Kuehner
PCM Specialist

Monroe, St. Clair, Madison, Clinton, & Washington



Jacob Gard
PCM Specialist

Coles, Douglas, Edgar, & Vermilion



Alexa Skirmont
PCM Specialist

Ogle, LaSalle, Lee, DeKalb, Boone, & Winnebago



Aidan Walton
PCM Specialist

Ford, LaSalle, Livingston, Logan, McLean, Tazwell, & Woodford



Leyton Brown
PCM Specialist

Champaign & Vermilion



Jonah Cooley
PCM Specialist

Piatt, DeWitt, & Champaign

NEBRASKA



Darren Cudaback
PCM Specialist

Greensboro, NE Region



Seth Norquest
PCM Specialist

York, NE Region



Clay Bess
PCM Operations Manager

cbess@precisionconservation.org
309-445-0278



KENTUCKY



Chris Stewart
PCM Specialist

Lower Cumberland, Lower Green, Purchase Regions





PCM Principles



More bushels don't always mean more profit. Data analysis helps farmers focus on maximizing return per acre, not just yield.



Conservation must make financial sense for farmers to be adopted at scale and sustained over time.



A resilient, sustainable supply chain starts with farmers who have the tools, resources, and profitability to thrive.

Farmer-First

PCM Specialists work hard to analyze your data and stay up-to-date with the the latest incentive programs and best-practice recommendations, **so you don't have to.**

- Technical assistance with data collection
- Personal data analysis
- Expert recommendations
- Cost-share opportunities (within PCM and beyond)
- No practice change required
- Sign-up bonus to compensate you for your time



“

One of the most important parts of PCM that I appreciate is the ability to use it as a resource. If I have a question about a new tillage practice or whether I could get some funding to adopt a new practice, I can call Leyton to direct me.

Darrin Tate, Champaign County, Illinois

Enrollment & Data Collection



*PCM makes data collection and analysis **EASY!***

- Striking a balance between **light data burden** and ability to produce **meaningful insights** and calculate outcomes
- PCM Specialists **enter data for you**
- Can work with your data in **any format** provided

Date Collected: _____ Data Collector: _____
Farmer Name _____ DOB: _____
Home Address _____
Shop/Farm/PO _____
Cell Phone # _____ Do you text? Prefer / Yes / No
Email Address _____
Are you available for 7 a.m. report deliveries in February? Yes Maybe
What generation farmer are you? _____ Innovator early adopter main stream late adopter
When did you start: Farming _____ No-tilling _____ Strip-tilling _____ Cover Cropping _____
Would you be interested in (AI=already implementing):
1. Reduce N to MRTN Yes No AI 4. Moving N to spring/in-season Yes No AI
2. No-till or Strip-till Yes No AI 5. Incorporating Small Grains Yes No AI
3. Cover Crops Yes No AI 6. Speaking to other growers, at events, or about PCM Yes
Circle if you've tried: Cereal Rye / Annual RG / Radishes / Oats / Clover / Turnip / Rapeseed / _____
Cover Crop Dealer: _____ Cover Crop Applicator: _____
County that most farm acres are in: _____ Have you ever worked with NRCS? Yes / No
Illinois Corn Member? Yes / No Are you participating in the SWCD's PFC program? Yes / No
PCM works with certain co-ops/entities to provide financial assistance. Circle if you work with
Cargill TGM Bunge Frito Marquis Nutrien ADM PFI Elevator: _____
Carbon Market Participation: SWOF ESMC CIBO Other: _____ None Interested
Reason(s) for conservation: _____
Your biggest hurdle for conservation: _____
How did you hear about PCM? _____
Other involvement: _____ ex: PF, leadership, board
 My Specialist has explained, and I agree to the PCM, FPC, CFT, STAR, SYT terms & conditions
 I confirm to be participating in only one, if any, carbon market (above information is correct)

Farmer's Time Commitment

\$500 first year participation payment, \$250 second year

4 touch points, at least 3 in-person

- 1. Summer Data Collection/Enrollment**
30 minutes to 2 hours
- 2. Fall Visit to discuss next year's practices**
30 min or combine ride
- 3. Harvest Data Collection**
phone call or quick visit
- 4. RAAP Delivery**
45 minutes to 2 hours



#1 Farmer Deliverable

Resource Analysis & Assessment Plans (RAAPs)

Annual, in-person report *just for your farm*

Highlights

- Financial and Environmental assessments
 - Whole farm & field by field
 - Meaningful comparisons by state, region & county
- Conservation Dashboard
- Available cost-share programs
- Local Resource Concerns



What Do Farmers Think?

A 2024 survey of PCM Farmers shows:

100%

are likely or very likely to continue working with PCM

96%

agree they would recommend PCM to their neighbors



What Do Farmers Think?



A 2024 survey of PCM Farmers shows:

64%
likely to
reduce or
eliminate
tillage

60%
likely to apply
at MRTN rates
of Nitrogen

72%
likely to apply
Nitrogen
in-season

63.5%
likely to try
or expand
Cover Crops

*Based on PCM data, for those not already using
the practice on their whole farm*

Using Data for Good



PCM aggregates & anonymizes data to provide meaningful analysis that supports:

1. Farmers enrolled in PCM
2. Farmers across the Midwest
3. Academics, researchers, and decision-makers



PCM Cover Crop Data

Cover crops remain the best conservation practice to improve soil health and productivity, reduce soil and nutrient loss, and address climate change. Many farmers have also seen agronomic benefits related to weed control, water infiltration, and drought tolerance. Still, there are clear risks to cover crop adoption like management, labor, time, and finances. Cover crops do present a unique challenge; there are many combinations of planting and termination options and dozens of species and mixes to choose from. The decision fatigue associated with identifying the right combination for the right soil type, region, or management is very real, made more difficult by varying costs. And yet, we find that PCM farmers who begin using cover crops, plant them again. The next time corn and soybeans were grown, 70% of PCM farmers used cover crops again on cornfields and 75% used them on soybean fields. While our aggregated data has yet to demonstrate the profitability of cover crops, we're confident that

Com COVER CROPS	OVERWINTERING	WINTER TERMINAL	NO COVER CROP
HIGH SPR 2015-22 AVG VALUES			
# of fields	369	164	4,502
Yield per acre	215	217	222
Soil Productivity Rating	139	140	140
GROSS REVENUE	\$922	\$918	\$938
COVER CROP SEED	\$14	\$14	\$0
TOTAL DIRECT COSTS*	\$427	\$407	\$417
COVER CROP PLANTING	\$12	\$16	\$0
Other power cost	\$121	\$111	\$114
TOTAL POWER COSTS**	\$133	\$127	\$114
OVERHEAD COSTS	\$38	\$38	\$38
TOTAL NON-LAND COSTS	\$598	\$572	\$570
OPERATOR & LAND RETURN	\$295-\$345	\$321-\$371	\$368
Estimated soil loss (tons/a)	0.64	0.72	0.91
GHG emissions			

Additionally, consider the heavy winds Illinois saw this spring, resulting in dust storms significant enough to cause damage and even loss of life. Reduced tillage is a great way to manage crop residue effectively to help armor your soil, especially in vulnerable areas.

DAVID WESSEL
CHANDLERVILLE, IL

Soy TILLAGE	NO-TILL	STRIP-TILL	1-PASS LIGHT	2-PASS LIGHT	2-PASS MODERATE	2+ PASSES
HIGH SPR 2015-22 AVG VALUES						
# of fields	2,284	115	751	237	816	434
Yield per acre	68	72	70	69	71	70
GROSS REVENUE	\$697	\$755	\$718	\$716	\$737	\$719
TOTAL DIRECT COSTS*	\$165	\$210	\$160	\$155	\$167	\$147
Field work	\$0	\$18	\$12	\$25	\$27	\$44
Other power costs	\$77	\$72	\$76	\$70	\$71	\$68
TOTAL POWER COSTS**	\$77	\$90	\$88	\$95	\$98	\$112
OVERHEAD COSTS	\$32	\$32	\$32	\$32	\$32	\$32
TOTAL NON-LAND COSTS	\$273	\$331	\$279	\$281	\$297	\$290
OPERATOR & LAND RETURN	\$424	\$424	\$439	\$436	\$440	\$429
Estimated soil loss (tons/a)	0.80	0.57	1.09	1.37	1.65	2.20
GHG emissions (metric tons CO2e/a)	-0.63		-0.18			0.23

No-Till = No tillage, Strip-Till = Less than full-width tillage of varying intensity, 1-Pass Light = 1 pass w/low-disturbance tillage, 2-Pass Light = 2 passes w/low-disturbance tillage, 2-Pass Medium = 2 passes (1 low-disturbance tillage + 1 high-disturbance tillage), 2+ Pass = more than 2 tillage passes, any intensity level.
SPR = soil productivity rating.



Data Analysis by the Experts



PCM + farmdoc = Valuable Insights

Aggregated PCM data is analyzed by Dr. Laura Gentry, Dr. Gary Schnitkey, and others. Key findings are shared in a number of ways to make good information accessible to all:



farmdoc articles and webinars



PCM Publications: Business Case for Conservation and Special Supplements



PCM educational farmer events

Business and Conservation

“Business moves at the speed of trust”

Stephen M.R. Covey

This is a phrase that refers to the idea that trust is a **key factor in a business' speed and cost.**

In PCM we say,

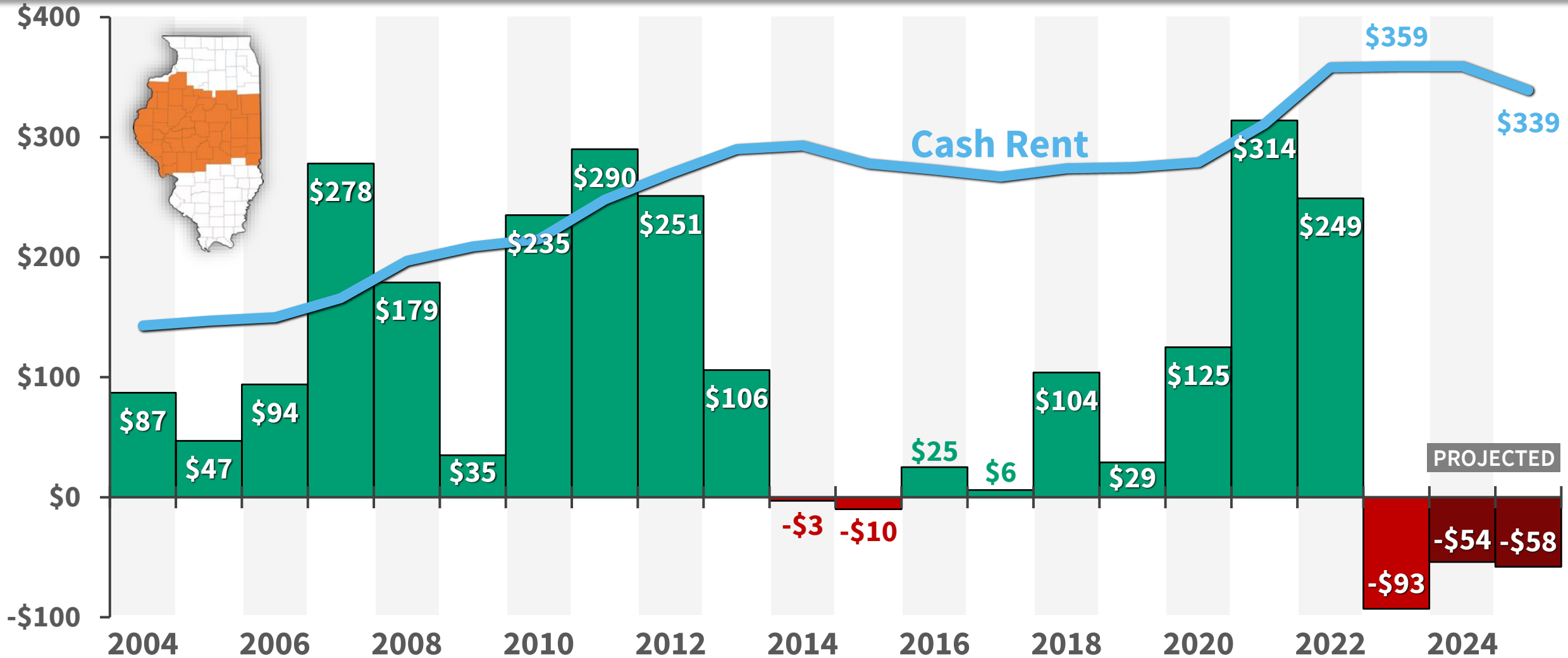
“Every conservation decision is a business decision.”

So, does that imply:

Conservation moves at the speed of trust!



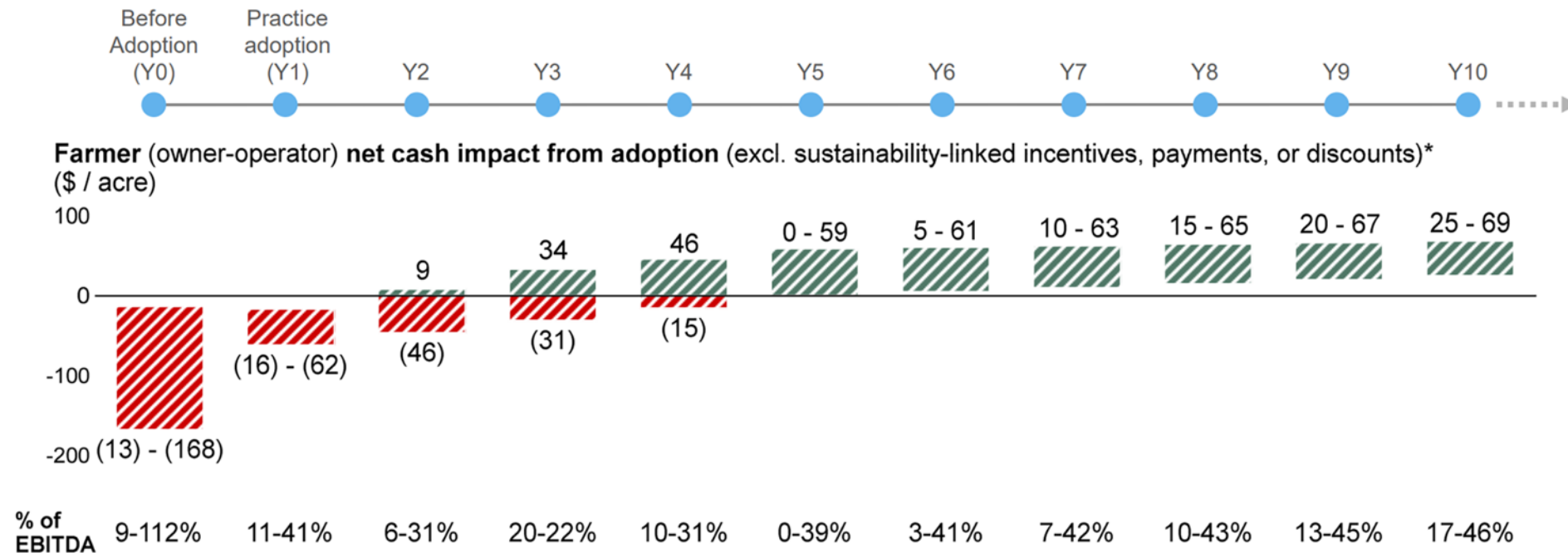
Returns to a 50% Corn – 50% Soybean Rotation in \$ per acre on **Central Illinois, Cash Rented Farmland** *includes estimated EA payments for 2024*



Source: Illinois FBFM and *farmdoc* projections

Temporal Impact on Returns

Farmer net cash impact of adopting regenerative agriculture



Source: 100 Million Farmers: Breakthrough Models for Financing a Sustainability Transition, Insights Report Jan.2024. World Economic Forum.

Key assumptions

- **Farm context:** 500-acre Illinois soy and corn farm implementing no till and cover crops
- **Cash outflow impact:** Increased OPEX (seed, chemicals, planting/termination) and temporary yield loss
- **Cash inflow impact:** Reduced OPEX (fertilizer, repair, fuel/lube/electricity) and eventual yield increase
- **Best case scenario:** Yield breakeven Y1 and farmer already has most of the equipment required
- **Worst case scenario:** Yield breakeven Y6 and farmer doesn't have most of the equipment required

Sources

- **Pre-adoption cash flows:** USDA
- **Regen yield impact:** Stanford, PCM, IOP Science, Michigan State, SARE
- **Regen CAPEX impact:** Nebraska Crop Budgets, University of Minnesota, Martin Industries
- **Regen OPEX impact:** USDA, CEAP, Purdue, FINBIN, Iowa State, ...

Conservation Funding



Conservation funding can help you bridge the gap during your transition to conservation agriculture.



Cost-Share Incentives

Earn up to **\$60 per acre** through PCM & partner incentives!



PepsiCo Practice Payments



*Payments coming from USDA and PepsiCo/Walmart.
PepsiCo and Walmart share claim on the carbon asset.*



Cover Crops	No-Till/Strip Till	MRTN/10% N Reduction
\$15/acre 1 st and 2 nd year	\$10/acre 1 st and 2 nd year	\$10/acre 1 st year
\$10/acre 3 rd year and beyond	\$5/acre 3 rd year and beyond	

Farmers for Soil Health

Statewide Cover Crop Incentive Program

- Payments available for **new & existing (\$2)** acres
- Access to DTN's Digital Marketplace connecting you to other ecosystem service opportunities

Year 1	Year 2	Year 3
\$25/acre	\$15/acre	\$10/acre



Stacking Payments

Stacking conservation incentives is possible but can be complicated.
Your PCM Specialist can show you the best options for your farm!

The basics:

- **Federal/State Funding:** You cannot be paid twice for the same practice on the same acre. You are contracted **by practice**.
- **Carbon Credits:** You cannot sell a carbon credit or receive a carbon intensity premium twice from the same acre, **no matter the practice**.

Know Before You Enroll

We know you have lots of options. Here are some questions to consider before enrolling in any conservation program:

- 1. Does this program pay only for new practices?
Can you enroll if you have a history with a conservation practice?**
- 2. What is the contract length?**
- 3. What is the burden on your time as a farmer?**
- 4. What is the payment structure?**
- 5. What is the funding source?**
- 6. What data do I need & how will it be used?**



Pre-Enrollment Questions

Does this program pay only for new practices?

Can you enroll if you have a history with a conservation practice?

Many federal and state programs will only provide funding for or buy outcomes generated from NEW practices.

Cover Crops	No-Till/Strip Till	MRTN/10% N Reduction
\$15/acre 1 st and 2 nd year	\$10/acre 1 st and 2 nd year	\$10/acre 1 st year
\$10/acre 3 rd year and beyond	\$5/acre 3 rd year and beyond	



Pepsico and PCM have partnered to provide per acre funding to early adopters.

Know Before You Enroll

What is the contract length?

Contract length varies by program.

Make sure you have control of the ground for the length of the contract.

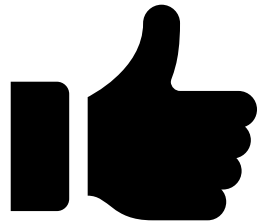


PCM contracts are only 1 year.

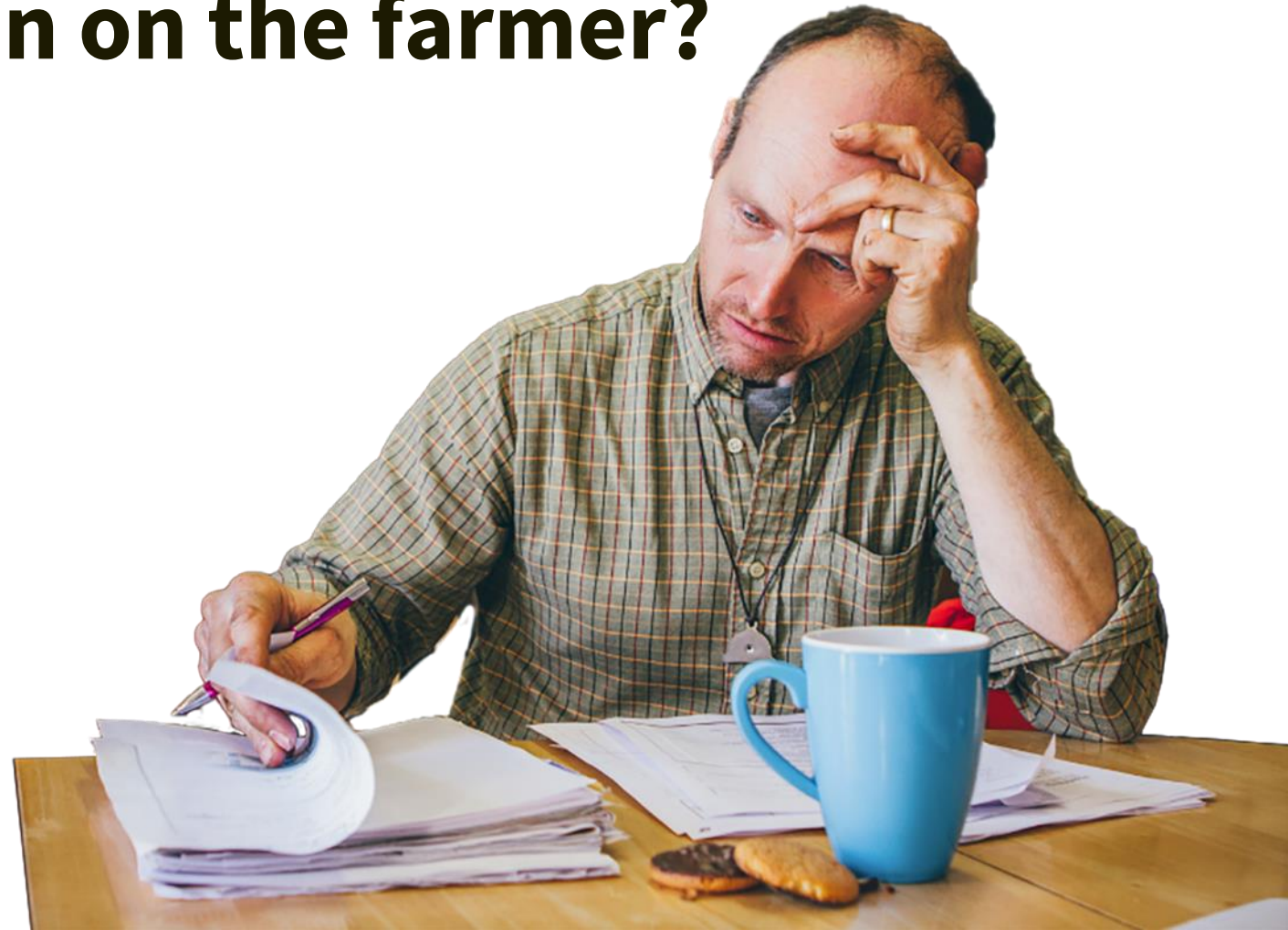
Know Before You Enroll

What is the time burden on the farmer?

- Data entry
- Verification
- Marketing of credits



**PCM does all of
this for you.**



Know Before You Enroll

What is the payment structure?

Payment Types

- **Pay for practice:** set price per acre
- **Pay for outcome:** modeled outcome (tonnes of CO₂e/acre)
- **Carbon Intensity Score:** modeled intensity score
 - premium on bushels

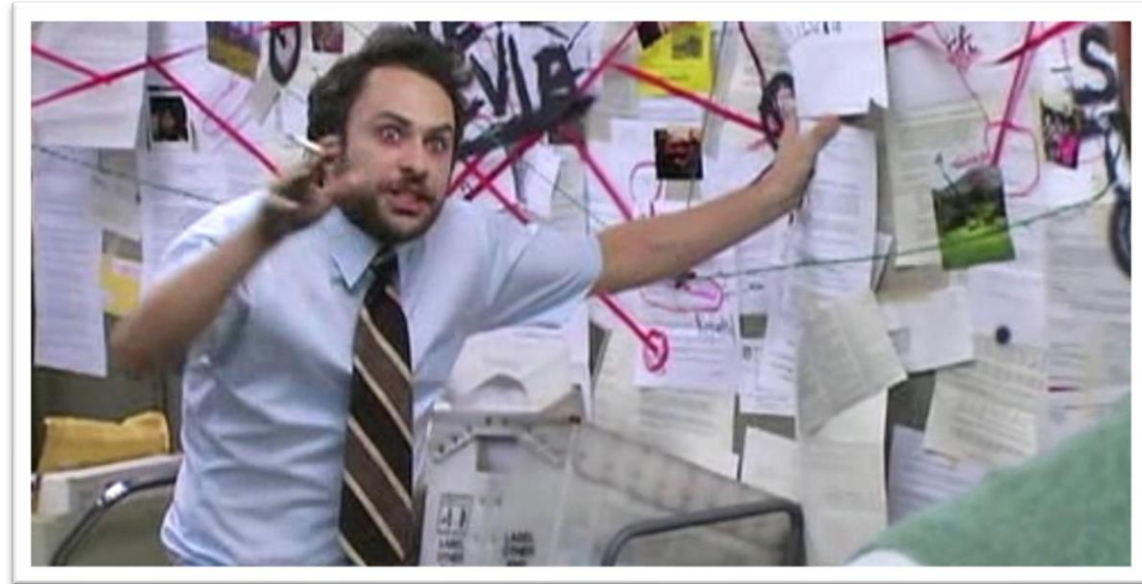


PCM pays for per acre for practices, regardless of outcome.

Know Before You Enroll

What is the funding source? Who is the funding source?

- **Federal**
- **State**
- **Private**
- **Hybrid**



PCM keeps track of this for you, helping you stack payments when possible.

Know Before You Enroll

What data do you need and how will it be used?

- Who owns the data? How will your data be used?
- What data, if any, is shared with USDA?
- Can your data be sold to any other entity?



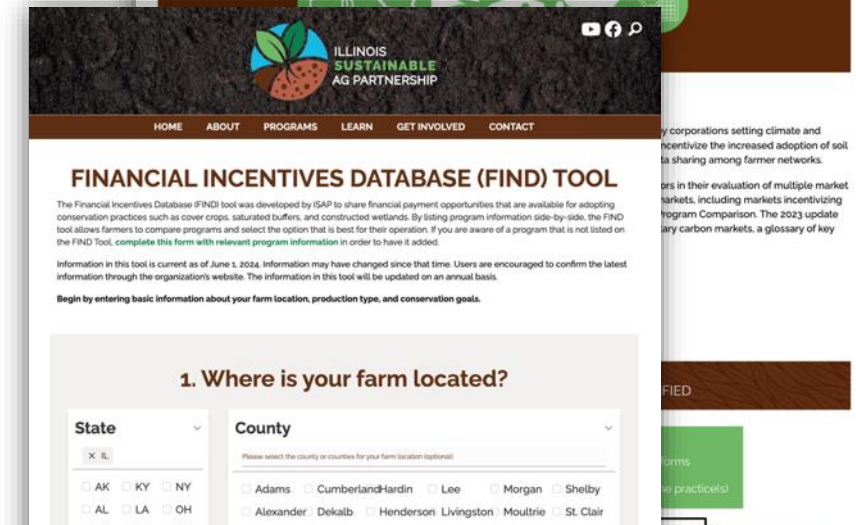
PCM instantly anonymizes your data, and **NEVER** shares it with anyone else unless it is part of an aggregated analysis or with your consent due to grant funding.

How to prepare for enrollment?

- **Understand your conservation goals**
match your goals with your funding source
- **Its probably too early to enroll the whole farm**
start with a few fields at a time
- **Be prepared with good conservation agronomy**
find a conservation agronomist to help you with your
transition into conservation agriculture

How to prepare for enrollment?

- **Get your data ready**
records and data are the key to receiving the highest dollar for your work
- **Review your options**
review the different market options for more information visit ilsustainableag.org/programs/ecomarkets or ilsustainableag.org/findtool/



Pay Attention To:

- **Contract length v land rental agreements**
Will you be farming that field
for the length of your contract?
- **Funding type**
Carbon market versus state or federal funding.

Pay Attention To:

- **Contract fine print**
understand the full terms of your agreement
- **Data usage**
how will the program use your data?
- **Verification methods**
Receipt audits, field visits, modeling,
and satellites are common

Pay Attention To:

- **Program Exclusion**

whether enrollment excludes the grower from participating in other markets or government programs

- **Cost-share programs**

many non-governmental cost-share programs are now associated with a carbon asset

Pay Attention To:

- **Practice standards**

If enrolling in a federally funded program (e.g. Climate-Smart or EQIP) don't assume they all have the same planting standards and program requirements

How Can PCM Help You?



1. Get **a better understanding of your farm financials** and a pathway to profitable conservation farming. This service is free to farmers in PCM regions.
2. After we benchmark your operation, we can provide you with **conservation funding from our partners**. We can even provide incentives for previous use of cover crops and no-till.
3. PCM Specialists help you to **understand conservation program options**. Our staff has expertise in most IL, KY, and NE conservation programs.

Whether you receive funding through PCM or someone else, our goal is to get conservation on the ground. You have nothing to lose!



Precision Conservation Management

Improving Farm Incomes & Environmental Outcomes

Serving farmers in Illinois, Nebraska, Kentucky, and soon in Missouri!

FIND YOUR SPECIALIST

LOG IN



TECHNICAL ASSISTANCE

PCM Farmers receive 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.



precisionconservation.org

Upcoming PCM Webinars



Apr 1, 2025: The Yield Trap: Why Higher Yields Don't Always Equal Higher Profits by Dr. Laura Gentry and Dr. Gary Schnitkey

Jun 3, 2025: Cover Crops and Weed Management: Reducing Herbicide Costs by Dr. Laura Gentry and Dr. Gary Schnitkey

Aug 5, 2025: Smart Nitrogen Management: Timing, Rate, and ROI by Dr. Laura Gentry and Dr. Gary Schnitkey

Oct 7, 2025: The Hidden Costs of Extra Tillage Passes: Is it worth it? by Dr. Laura Gentry and Dr. Gary Schnitkey

Dec 2, 2025: Conservation Incentives: What can farmers cash-in on for the 2025 growing season? by Greg Goodwin and Clay Bess

farmdoc Sponsors

TIAA

Center for
Farmland Research



CORTEVA[™]
agriscience



farmdoc

Educational Partners



College of Agricultural,
Consumer &
Environmental Sciences

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Department of
Agricultural &
Consumer Economics

Illinois Extension



Gardner
Agriculture
Policy
Program



2025 farmdoc Webinar

Thank You for joining us!



Visit us at

farmdocDAILY
.Illinois.edu

✉ Subscribe for Latest News Updates



College of Agricultural,
Consumer &
Environmental Sciences

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



For the webinar archives and 5-minute farmdoc
Subscribe to our channel [YouTube.com/@farmdoc](https://www.youtube.com/@farmdoc)

