EXECUTIVE BRIEF | JULY

What Biofuel Producers Need to Know About the **New USDA Guidelines and FD-CIC Model**

A quick view for fuel executives to understand how the new guidelines and updated Feedstock Carbon Intensity Calculator reshape operational readiness for 45Z.

06
Critical takeaways

04
Core operating pillars

NOW
Window to align growers, systems, and audit readiness

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USDA has established the **operating framework** for feedstock-level 45Z eligibility.

4 Approved crops

Corn, soybeans, sorghum, and spring canola are in scope.

1 Standard methodology

FD-CIC becomes the common scoring model across supply chains.

3rd Party verification

ISO-14065 accredited verification is required before claims support 45Z.

SIX KEY TAKEAWAYS

1. **Framework defined**
2. **FD-CIC available**
3. **Documentation burden rises**
4. **Verification is mandatory**
5. **Chain of custody matters**
6. **Early movers capture value**

Why this matters now

For ethanol producers, the release shifts the immediate priority from policy monitoring to operating readiness: grower enrollment, agronomic data capture, updated carbon calculations, and audit-grade documentation now need to move in parallel.

1.

USDA Has Defined the Framework for Regenerative Feedstocks

The final USDA rule establishes the official process for quantifying, reporting, verifying, and tracking carbon intensity for corn, soybeans, sorghum, and spring canola produced using approved regenerative practices. The updated FD-CIC model provides the standardized methodology ethanol producers and their grower networks can use to quantify field-level carbon intensity and support 45Z eligibility.

2. The **FD-CIC Model** Is Now Available

USDA has released the updated Feedstock Carbon Intensity Calculator (FD-CIC) with enhanced data inputs, agronomic factors, and emissions modeling.

The model provides the standardized methodology for estimating field-level feedstock carbon intensity under the new USDA guidance and will be used to support 45Z calculations across participating supply chains.

KEY CONSIDERATIONS

- DayCent, the model underpinning USDA FD-CIC values, is a globally recognized and rigorously peer-reviewed biogeochemical model, validated over decades for scientific research and policy use.
- It supports approved crops and low-carbon practices: improved nutrient management, conservation tillage systems and cover crops. Important changes to practices include:
  - Manure applications are now included;
  - Actual nitrogen applied is now required for all practices;
  - Cover crops with grazing are now included;
  - Farmers must report expected and actual yield;
  - Tillage, now defined by Tillage Disturbance Index for Soil Carbon (T-DISC).
- Standardizes field-level carbon intensity calculations
- Creates a consistent methodology for field- level carbon intensity scoring across biofuel supply chains

3. Rigorous **Data & Documentation** Requirements

The new guidance clearly defines expectations for data quality and traceability.

Producers must maintain complete records of **field operations, nutrient management plans and applications, tillage practices, establishment of cover crops, expected and final yields,** demonstrating the implementation of practices that influence carbon intensity calculations, including synthetic nitrogen and manure application rates, use of nitrification inhibitors, establishment of cover crops, tillage practices, and expected and final yields.

DOCUMENTATION SHOULD

- Be verifiable and retained for audit purposes
- Support claims throughout the entire supply chain
- Demonstrate implementation of approved regenerative practices
- Reduce compliance risk while maximizing credit value

4. Third-Party **Verification Is Required**

Carbon Intensity Scores generated using the FD-CIC model must be verified by an approved ISO-14065 accredited third-party verifier before supporting 45Z credit claims.

VERIFICATION HELPS

- Ensure data integrity
- Build confidence in reported carbon intensity scores
- Ensure no double counting of environmental benefits occurs
- Support audit readiness and regulatory compliance

5. Chain of Custody **Matters**

The USDA guidance establishes requirements for mass balance traceability standards and maintaining documented chain of custody as feedstocks move through the supply chain to the first point of aggregation or intermediary entities.

ORGANIZATONS SHOULD

- Ensure data integrity
- Build confidence in reported carbon intensity scores
- Ensure no double counting of environmental benefits occurs
- Support audit readiness and regulatory compliance

6. Act Now to Capture Full Value

With the regulatory framework now defined, early preparation provides the greatest opportunity to maximize 45Z value. Ethanol plants should begin enrolling growers, aligning regenerative practices, and preparing systems before production begins.

IMMEDIATE ACTIONS

- ✓ Engage growers and encourage program enrollment
- ✓ Align on approved regenerative practices
- ✓ Update systems to capture required field-level data
- ✓ Implement the updated FD-CIC model
- ✓ Prepare for third-party verification
- ✓ Build internal processes for data tracking and reporting

How **Corvian** Can Help

Corvian helps ethanol producers and their supply chains operationalize the new USDA Technical Guidelines and FD-CIC model. We transform field-level and supply chain data into trusted, audit-ready intelligence that supports carbon intensity calculations, simplifies compliance, and helps organizations maximize the value of 45Z.

IMMEDIATE ACTIONS

Data Collection & Integration

FD-CIC Modeling & Analysis

Verification Readiness

Reporting & Compliance

Smarter data. Stronger decisions. Greater value.