



Park the Plow for Profit:

Continuous No-Till Transition Planning Guidance

DESCRIPTION –

Continuous No Till (CNT) utilizes no-till or strip till systems to grow crops continuously for a period of 3-5 years on the planned acres. All crops are grown without tillage, as defined below. This practice will improve soil quality levels, reduce erosion, conserve fuel and sequester carbon. The plan produced through this program is designed to transition the producer to this practice permanently.

PRACTICE REQUIREMENTS & DEFINITIONS –

The producer will grow all grain or special crops on the contract area using a 100% no-till/strip till system for a period of 3-5 years. **This practice payment is limited to 250 acres, per the Park the Plow contract (PtP and/or EQIP). Technical assistance utilizing a Certified Crop Adviser (CCA) to develop and provide guidance on the implementation of the transition plan will be provided for the PtP Project. Incentive payments for implementing CNT, Nutrient Management, and Pest Management are available through EQIP or other sources.**

***A continuous no-till system is defined as** planting crops directly into the previous crop residue, using no-till planters, drills, or air seeders. Strip till or controlled traffic systems which disturb less than 20 percent of the row area are included as no-till systems. Narrow in-line fall sub-till systems can be a part of the no till system, provided they disturb less than 20 percent of the row area, and the crop is no-till planted without further tillage.

Plowing, chisel plowing, disking, v-ripping or any other full-width tillage are not permitted operations and are not part of a continuous no-till system.

When silage crops or low residue special crops are grown, a cover crop is required to be sown following silage harvest and the subsequent crop is planted no-till into the cover crop. If fields need land leveling or tilling to make the no-till system work, this may be done at the beginning of the rotation with a documented needs assessment by the inspecting CCA.

No-Till Transition Plan

Field Identification Signature: _____ Track: _____

Product Numeration: _____ Acreage: _____

I. Field location: include field map(s) of the planned acres. (FSA has these available with approval of producer)

II. Nutrient management

A. Soil test report < 3 yrs old

1. Soil analysis results (please use the signature and track system for new tests that will be put into CROP MD).

- a. P (P index if necessary)
- b. K
- c. pH

2. Crop rotation (including cover crops) for each field and nutrient management plan for each year to include purchased fertilizer, biosolids, and/or manure sources. In corn years utilizing manure indicate the use of the SPAD meter or PSNT for potential sidedress N requirement. (All available on Crop MD.)

- a. Year 1
- b. Year 2
- c. Year 3

3. Manure – (input into Crop MD)

- a. Describe manure types such as liquid dairy manure or bedded pack, etc.
- b. Provide a summary of total manure available & use of N stabilizer.
- c. Acquire manure analysis or use book values.
- d. Show set backs on map(s) restrictions including winter conditions (Act 38). State procedures in narrative.
- e. SPAD meter or PSNT recommendations.

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4. Starter fertilizer – maximum N application rate for SPAD meter or PSNT use is 15lbs/acre (row starter and/or nitrogen solution used as a herbicide carrier.)
 - a. Starter type: dry or liquid
 - (1) Analysis – match to soil fertility: dry eg. Low P: 10-30-10, optimum P: 16-8-8-16S, excessive P: 21-0-0-24S or 33-0-0
 - (2) Amount – usually 100-300lbs/acre
 - (3) Total applied nutrients
 - b. Placement (Circle all that apply)
 - (1) 2 by 0 (dry or liquid) 2 inches to the side of the row and 2 inches deep.
 - (2) Pop-up in seed furrow (liquid) eg. 9-30-2-1S or 9-18-9 @5-9 gal/acre
 - (3) Surface dribble (dry or liquid) saves down pressure weight for planting unit penetration and dry dribble over the row can provide a salt barrier to repel slugs.
5. Nutrient budget for field: N-P-K-Ca-Mg-S-C1-B-Zn-etc

Crop nutrient requirements for projected yield

- (1) Starter
 - (2) Manure and manure history
 - (3) Previous crop N credit
- Add above totals to determine if additional nutrients are required.

III. Soil Quality – “Best (8 - 10) to poor (1 – 3)”

Penetration resistance map should be attached if penetrometer use is necessary.

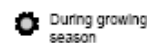
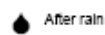
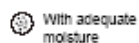
Provide a list of recommendations based on the soil quality results to producers to improve soil quality in the field as it is transitioned to no-till. Provide recommendations on measures that can be taken to reduce soil compaction from manure hauling, crop harvest, etc. Example practices include cover crops, crop residue management, manure application only when soils are dry enough, crop rotation, flotation tire use and proper tire pressure adjustment, field borders and filter strips, travel lanes and in severe compaction sites – one time sub-soiling.

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Soil Quality Assessment Worksheet (See instructions on other side of this sheet.)

Field ID:

Date:



Indicator	Descriptions			Rating			Comments
	Good (8-10)	Medium (4-7)	Poor (1-3)	Good	Med	Poor	
Soil Tilth 	Mellow; Pliable; Crumbly; Clods easily broken apart by tillage	Firm; Some large clods; Clods can be broken apart by tillage	Hard dense chunks; Tight; No structure; Difficult to break apart by tillage				
Compaction 	Little resistance to penetration by soil probe, shovel, wire flag, tillage implement, etc.; No hard pan	Some resistance to penetration by soil probe, shovel, wire flag, tillage implement, etc.	High resistance to penetration by soil probe, shovel, wire flag, tillage implement, etc.; Hard pan present				
Water Infiltration and Drainage 	Soil drains well after rain; Little or no ponding or runoff following rain; Can get into the field soon after a rain	Water drains slowly with some ponding	Water ponds or runs off following most rains; Long wait to get on the field following rain; Soil surface crusted				
Erosion 	No gullies or visual evidence of erosion; Any runoff that occurs is generally clear; Deep topsoil	Some visual signs of erosion; Cloudy runoff	Obvious signs of erosion; Muddy runoff; Shallow topsoil; Subsoil showing at the surface				
Surface Cover 	Soil surface covered year-round; Little bare soil; Dense sod or other vegetation; Heavy, well-distributed residue present	Some residue or vegetation present but soil surface not completely covered; Bare soil during part of the year	Little or no soil cover; Bare soil for much of the year				
Soil Life 	Signs of earthworms and other soil life common (worms, worm casts, worm holes, etc.)	Occasional signs of earthworms and other soil life (worms, worm casts, worm holes, etc.)	No visible signs of earthworms and other soil life (worms, worm casts, worm holes, etc.)				
Soil Organic Matter 	Dark color; Visible organic material; Earthy smell; High organic matter soil test	Medium organic matter soil test	Light color; No visible organic material in soil; No smell; Low organic matter soil test				
Plant Growth 	Healthy uniform plant growth; Consistent good yields; Crops resist stress, such as drought	Plant health varies; Inconsistent yields; Crops somewhat resistant to stress	Spotty, uneven crops; Plants unhealthy; Consistently poor yield; Crops susceptible to stress				
Plant Roots 	Robust, large, deep, well-dispersed root system; No obvious restriction to root growth; Many fine roots	Roots present in profile; Some misshapen roots; Some restriction to root growth	Few or no roots present; Roots short, coarse, not uniformly distributed; Roots growing sideways; Obvious restrictions				
Other							
Other							

IV. Starting year specifics for this field reassess in winter and resubmit plans for two remaining years of the plan. (spring yr 1, fall yr 1, or spring yr 2, etc.)

V. Pest Management

A. Weed control:

- Burndown products – these replace the initial weed control of primary and secondary field tillage.

- _____
- _____

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2. Pre-emergence and post emergence products – these replace the in-crop weed control from field cultivation.

- a. _____
- b. _____

B. Insect control:

1. Seed treatment (highly recommended)
2. Hybrid/variety traits (potato leafhopper resistant alfalfa and Bt corn)
3. Post application and other control measures

C. Disease control:

1. Variety/hybrid selection for high disease ratings especially gray leaf spot in corn.
2. Post applications

VI. Crop Scouting – assessments

- A. Pre-planting and planting visit(s) – planter adjustment and seed drop evaluation
- B. Emergence and initial stand visit
- C. Early season IPM visit
- D. Mid season IPM visit
- E. Final population
- F. Yield check

VII. Cover Crops (highly recommended)

A. Cover Crop Used – Yes/No

If yes:

1. Type
2. Seeding rate
3. Optimum date of seeding and window of opportunity
4. Projected burndown timing with objective justification

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VIII. Crop Residue Management:

- A. Percent residue cover at transition time
 - 1. 0 – 29 (insufficient – cover crop required)
 - 2. 30 – 50 (minimal)
 - 3. 51 or more (best)

- B. Distribution of cover at planting time. Scale of 1 – 5
 - 1. 1 = very uneven -----5 = ideal uniformity.
 - 2. Action required to correct uniformity issues.

IX. Equipment check:

- A. Leveling planter at planter tongue
 - Parallel linkage arms on planter unit parallel to ground.

- B. Proper cutting coulter? Y/N
 - 1. Type
 - a. 8 wave (can be difficult to get sufficient penetration into dry or shaley soil)
 - b. 13 wave – the best no-till coulter
 - c. Bubble (not recommended for no-till) or straight (fertilizer application only)
 - 2. Measurement of coulter (diameter)
 - a. 16 inches
 - b. < 16 adjust for wear
 - c. < 14 replace
 - 3. Location: unit mounted or frame mounted

- C. Disc openers worn? Y/N (business card test)
 - Measurement of openers (diameter)
 - a. < 15 adjust for wear
 - b. < 14 replace

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D. Play in row unit? Y/N

Measurement of play

- a. < 1 inch
- b. > 1 inch replace bushings

E. Depth set to proper depth for seed and compensation for residue cover matt

1. Residue matt depth

- a. $\frac{1}{4}$ to $\frac{1}{2}$
- b. $\frac{1}{2}$ -1

2. Depth of seed placement (recommended)

- a. Corn: 2 – 2.5 inches
- b. Soybeans: 1-1.5 inches
- c. Wheat: 1 inch
- d. Alfalfa: $\frac{1}{8}$ inch
- e. Other: _____

F. Residue managers

1. Select universal type residue managers

2. Adjust for minimal soil disturbance

3. Do not use when planting end rows (up & down hill) or when planting into low residue conditions such as soybean residue

G. Closing wheels

1. Type

- a. Rubber
- b. Cast iron
- c. Spike
- d. Combination _____

2. Tracking

In line with disc opener slot