Section 11 Facility Safety Recommendations

Facility Safety Recommendations

1. Waste storage facilities must be considered "High Hazard Areas". The biodegradation of waste forms noxious gases such as methane (CH), Hydrogen sulfide (H_2S), ammonia (NH_3) and carbon dioxide (CO_2). This can be fatal to both animals and human beings.

   - **HYDROGEN SULFIDE PARALYZES THE DIAPHRAGM AND THE VICTIM WILL NOT START BREATHING AGAIN WITHOUT ARTIFICIAL RESPIRATION, EVEN AFTER BEING REMOVED FROM THE NOXIOUS GASSES.**

2. Some of these gases can be explosive with the proper gas to air ratio. Use caution with open flames, welding torches and arcs, electrical motors with brushes that spark (skillsaws, electric drills, shop vacs, etc.) when working near waste storage facilities. Be sure the work area is well ventilated.

3. Agitation of liquid manure can release large volumes of these noxious gases. Special care must be taken to provide adequate ventilation during agitation and emptying of the storage facility. If there is a question regarding the adequacy of ventilation, the livestock should be evacuated from the building and the operator should wear an oxygen mask.

4. Operators should avoid working alone during agitating and emptying the facility.

5. A reception pit, tank or other storage facility that has contained liquid/slurry manure should not be entered because gases may remain in the structure. When it is necessary for someone to enter one of the structures for repairs, the following precautions must be taken:

   a. The reception pit shall be ventilated by the use of fans, blowers, etc.

   b. There should be at least two people; one to remain on the outside and one to enter the facility.

   c. The one entering the structure must have a safety line attached so that the "outside" person can pull the victim to safety without entering the facility.

   d. The one entering must have an air mask, which furnishes outside air through an airline and compressor, scuba equipment with air tanks or other means of positively furnished outside air.

e. Gas masks must not be used because they operate on the principle of chemically removing unwanted gases from air so the wearer can breathe safely. In manure facilities, the air has been displaced by the noxious gases and when the gases are removed by the gas mask, the wearer will suffocate because there is no air to breathe.

6. All lids, gates, hatch covers, shields and safety grates to prevent unauthorized entry by people or livestock must be securely in place when tanks and pit openings are left unattended and must be repair immediately when damaged.

7. Never leave a ladder that stands against an above ground waste storage facility unattended.

8. All waste storage facilities must be posted with signs with the following or similar warning:

DANGER - KEEP OUT

THIS IS A WASTE STORAGE FACILITY AND PROLONGED EXPOSURE MAY BE HAZARDOUS TO YOUR HEALTH.

9. Inspect and repair/replace, as needed, all warning and hazard signs.

Section 12 Odor & Pathogen Management

Odor and Pathogen Management

It may not be practical or feasible to eliminate all odor emissions from the operation, but it is possible to manage or mitigate the odor. Some variables that affect odor are:

- Type of operation
- Ventilation method
- Animal diets
- Season
- Management skill or effort
- Building design
- Animal numbers
- Manure treatment system
- Topography

1. Animal Cleanliness

a. Clean, dry, and healthy animals are less odorous. Dirty, manure-covered animals promote accelerated bacterial growth and the production of odorous gases.

b. Animal stress can also be correlated to an increase in odor production. Ventilation and environmental controls for the buildings must be properly designed and maintained to keep the animals healthy.

2. Minimize Dust

a. It has been established that there is a correlation between dust and odor emission. Dust particles adsorb and concentrate odorous compounds. As the dust particles are carried by the wind, so is the odor.

b. Therefore, minimizing dust will reduce odor. Most farm dust comes from feed, fecal matter and, in the case of poultry, from feathers and litter. Dust also comes from animal skin, insects, and other sources.

c. Buildings should be cleaned of all dust between batches of animals (including fans, shutters, and screens).

3. Waste Storage Facility

To reduce emissions of greenhouse gases, ammonia, volatile organic compounds, and odor:

- If odors from the facility become a concern, consideration can be given to alternatives and additional practices including but not limited to covered anaerobic digesters, and composting facilities.

- Adjusting pH below 7 may reduce ammonia emissions from the waste storage facility but may increase odor when waste is surface applied.

- Consideration should also be given to the separation of the solids from the waste mixture. This will dilute the liquid waste product being treated in the lagoon and cause less odor. The solid separated material can be composted and sold or land applied.

4. Animal diets

Diets can also be manipulated to produce less manure production and odors from the manure. Much of the odors from manure are from nitrogen, sulfur and carbohydrate containing volatile compounds. Balancing the diet with the proper amounts and forms of protein and reducing excess protein in the diet will reduce nitrogen excretion and odor emissions from the manure.

5. Proper Disposal of Mortality

Normal mortality for the animal feeding operation must be properly handled for both odor control and biological security of the operation. Composting, incineration, and rendering are acceptable methods for mortality disposal.

6. Good Fly and Rodent Control Programs

These programs must be a continuous process on the farm. When feed and waste products are properly handled, these problems are minimized. Fly and rodent bait stations and/or boxes should also be utilized to control populations. Check all bait stations regularly and replace when necessary.

Section 13 Sampling procedures for soil and manure testing

Manure Sampling

1. Collecting the Sample

When collecting a manure sample from a storage facility, the most important thin to keep in mind is to collect a sample representative of what will be land applied to the crop. If a livestock operation has more than one storage facility (e.g., a holding pond and a drystack) each unit should be sampled separately (e.g., the producer will need to collect two samples, one to represent each manure type, liquid sample, and a solid sample).

2. Pit Storage Structures (Below Building) Above Ground Storage Structures (Slurrystore)

Manure samples can be samples prior to applications, after the structure has been agitated to assure a homogenous sample. If agitation cannot be performed, because of gas production and animal welfare, a sample can be obtained from the application equipment or the outlet line on the pump. Three to six samples should be collected from different loads and mixed together to form one composite sample. If it is not possible to collect a sample from the previous two methods, samples should be collected directly from the structure. A sample should be collected at the top, middle, and bottom of the land application event. A one-pint sample is usually sufficient to be sent to the lab, provided that it is in well-sealed container. A wide mouthed plastic bottle works well. Consult with the lab directly for specific instructions.

3. Drystacks

The sample sent to the lab from a drystack should be a composite of several sub-samples. Sub-samples should be obtained from about 10 locations within the drystack. The sample locations should vary by depth (from 1 ft. deep to 3 inches from the bottom) and by position (from the front, back, and sides). After collecting the sub-samples, the material should be mixed in one container to make a homogeneous composite sample. The composite sample sent to the lab should be about one pint. It should be sent in a well-sealed container. Sealable plastic bags work well for relatively dry material, wide mouthed plastic bottles are better for wetter material.

4. Earthen Storages/Holding Ponds

Storages should be sampled immediately before or during land application. The condition of the storage during sample collection should reflect the condition of the storage during land application. If the storage is agitated during land application and is well mixed, one sample will be representative of the entire facility. The agitation time required for the storage facility to become well mixed is dependent on its size and shape and the agitation equipment. Small facilities are usually well agitated after one to two hours. If the facility is not agitated during land application, it will not be well mixed. In this case three samples should be collected; a sample should be collected at the beginning, middle, and end of the land application event. Storage facility samples can be collected from the storage itself, the outlet line on the pump or from the application equipment. A one-pint sample is usually sufficient to be sent to the lab, provided that it is in well-sealed container. A wide mouthed plastic bottled works well. Consult with the lab directly for specific instructions.

5. Lagoons

Anaerobic lagoons should be sampled immediately before or during land application. The condition of the lagoon during sample collection should reflect the condition of the lagoon during land application. A minimum of three samples should be collected; a sample should be collected at the beginning, middle, and end of the land application event. Lagoon samples can be collected from the lagoon itself, the outlet line on the pump or from the application equipment. A one-pint sample is usually sufficient to be sent to the lab, provided that it is in well-sealed container. A wide mouthed plastic bottle works well. Consult with the lab directly for specific instructions.

6. Sample Transfer

The sample should be mailed or delivered to the lab the day of collection to reduce sample degradation with time. Do not send samples that will not be delivered within one to two business days. For example, do not send on a Thursday and allow it to set in the post office or mail box during a weekend. The sample should be analyzed for total nitrogen, ammonia nitrogen, phosphorus, potassium and total solids. Contact the lab prior to sending in a sample to receive a sample analysis form to mail in with your sample.

Soil Testing Procedures

Soil samples for soil tests should not represent more than 2.5 acres per sample and should be done at least every 3-4 years. Any field not sampled at 2.5 acre frequency should be re-sampled at 2.5 acres grids on the next scheduled soil testing cycle.

Soil sampling depth for P and K shall be 7 inches. Under no-till conditions pH can be tested using the top 4 inches only.

Soil samples shall be collected and prepared according to The Illinois Agronomy Handbook. Soil samples should be taken prior to manure or fertilizer applications. Since manure will typically be applied to soybean stubble during the fall previous to planting corn in the spring, soil tests should be taken in soybean stubble prior to manure application. Wait 9 months after manure or fertilizer applications before soil testing so that unabsorbed nutrients do not affect the results.

The minimum soil analysis for CNMP's should include the following parameters:

- *soil pH,*
- *phosphorus (P as indicated by Bray P1 test)*
- *potassium, (K)*

In addition, Cation Exchange Capacity (CEC), and soil organic matter should be tested to help determine liming and fertilizer recommendations. Soil testing should include analysis for any nutrients for which specific information is needed to develop the nutrient plan.

Soil sample lab reports are filed under each field's individual information.

Section 14 Future Wells

Future Wells

When installing new wells, springs or other potable water sources, due consideration must be given to the distance, grade and location of the waste storage facility to the new water source. The Department of Health, Department of Agriculture and/or Natural Resources Conservation Service should be consulted as to installing new potable water supplies in relation to the waste storage facility.

Section 15 Land Treatment Practices

LAND TREATMENT PRACTICES

Land Treatment Practices Overview

Land treatment practices are to be applied to fields to limit the potential for runoff or other hazardous incidents from occurring due to land application of manure. As part of this element of the CNMP, the RUSLE2 program was run for each of the fields indicated in the plan. The results of RUSLE2 are outlined in the following RUSLE2 reports.

Current Management Practices for Fields in CNMP

The cropland utilized in this CNMP will be in a three or four years continuous corn with soybeans or wheat planted every third or fourth year in the rotation. Planned rotation can be seen in section 22 of this CNMP. Most fields are chisel plowed two out of three years on rotation. Produce farms slopes on contour. Summer application of manure is applied to wheat ground and liquid manure is injected. Producer field cultivates in the spring prior to planting. All fields were run using RUSLE2 as outlined below. More comprehensive RUSLE2 reports can also be found in the printed reports on the following pages.

Field	Crop Rotation	Yields	Soil Type	T Value	Soil Loss T
Blacktop 1	C-C-C-B	200-200-200-60	86B Osco silt loam	5.0	***1.8***
			86C2 Osco silt loam	5.0	***4.3***
Blacktop 2	C-C-C-W	200-200-200-90	86B Osco silt loam	5.0	***1.3***
			86C2 Osco silt loam	5.0	***3.5***
Blacktop 3	C-C-C-B	200-200-200-60	86B Osco silt loam	5.0	***1.8***
			86C2 Osco silt loam	5.0	***4.3***
Blacktop 4-5	C-C-C-B	200-200-200-60	86B Osco silt loam	5.0	***1.8***
			675C2 Greenbush silt loam	5.0	***4.3***
Blacktop 6	W-C-C-B	90-200-200-60	675B Greenbush silt loam	5.0	***1.7***
			675C2 Greenbush silt loam	5.0	***3.1***
Meiners	W-C-C-B	90-200-200-60	86B Osco silt loam	5.0	***1.3***
			675C2 Greenbush silt loam	5.0	***3.1***
Spangler 1	W-C-C-B	90-200-200-60	86B Osco silt loam	5.0	***1.3***
			86C2 Osco silt loam	5.0	***3.1***
Spangler 2	C-C-C-W	200-200-200-90	86B Osco silt loam	5.0	***1.3***
			86C2 Osco silt loam	5.0	***3.5***
Spangler 3	C-C-C-W	200-200-200-90	86B Osco silt loam	5.0	***1.3***
			86C2 Osco silt loam	5.0	***3.5***
Zeigler 1	C-C-C-W	200-200-200-90	86B Osco silt loam	5.0	***1.3***
			86C2 Osco silt loam	5.0	***3.5***
Zeigler 2	C-C-C-W	200-200-200-90	86B Osco silt loam	5.0	***1.3***
			86C2 Osco silt loam	5.0	***3.5***
Day 4	C-C-C-W	200-200-200-90	86B Osco silt loam	5.0	***1.3***
			675C2 Greenbush silt loam	5.0	***3.5***
Wilger	C-C-C-W	200-200-200-90	86B Osco silt loam	5.0	***1.3***
			675C2 Greenbush silt loam	5.0	***3.5***
St. Woesner	C-C-C-B	200-200-200-	279B Rozetta silt loam	5.0	***2.8***

		60	279C2 Rozetta silt loam	5.0	***5.0***
Ron 40	C-C-C-B	200-200-200-60	675B Greenbush silt loam	5.0	***2.4***
			280C2 Fayette silt loam	5.0	***5.0***
Ron 80	C-C-C-B	200-200-200-60	86B Osco silt loam	5.0	***1.8***
			86C2 Osco silt loam	5.0	***4.3***
Weigel North	C-C-C-W	200-200-200-90	86B Osco silt loam	5.0	***1.3***
			86C2 Osco silt loam	5.0	***3.5***
Weigle South	C-C-C-W	200-200-200-90	86B Osco silt loam	5.0	***1.3***
			86C2 Osco silt loam	5.0	***3.5***

All fields meet T with the outlined management & rotations

Land Treatment Practices Current & Planned

Nutrient Management – Code 590 – Animal manures and commercial fertilizer will be applied to land to help meet crop nutrient needs. Soil testing, manure analysis, and record keeping will be performed. *(current & planned- All Fields)*

Waste Utilization – Code 633 - Animal manures will be applied to land in an environmentally acceptable manner to maintain or improve soil, air, water, and plant resources. *(current & planned – All Fields)*

Manure Transfer – Code 634 – Manure will be conveyed using structures, conduit, or equipment in order to transfer manure through a hopper, reception pit, pump, conduit, or hauling equipment to a manure storage facility, loading area, or to agricultural land for final utilization. *(current –& planned – vacuum tanker & dry spreader, planned to add injectors to liquid tanker)*

Subsurface Drain – Code 606 – Use of a conduit installed underground to collect and/or convey drainage water to improve the soil environment for vegetative growth, reduce erosion, and improve water quality by regulating water table and ground water flows, intercepting and preventing water movement into a wet area, relieving artesian pressures, removing surface runoff, prevent leaching of saline and sodic soils, serving as an outlet for other subsurface drains, and regulating subirrigated areas or waste disposal areas, collect ground water for beneficial uses, remove water from heavy use areas, and regulate water to control health hazards. *(none planned)*

Residue Management – Code 329A – Land will be managed so as to distribute crops and residues over the soil surface year-round, and crops will be planted in narrow slots, or tilled residue strips previously untilled by full-width inversion implements to reduce sheet & rill erosion, wind erosion, maintain soil organic matter & tilth, conserve soil moisture, manage snow to increase plant available moisture, reduce plant damage from freezing, and to provide food & cover for wildlife. *(current & planned – All fields – all fields will be reduced tillage)*

Grass Waterway – Code 412 – A natural or constructed channel that is shaped and graded to required dimensions and established with suitable vegetation to convey runoff from terraces, diversions, or other water concentrations without causing erosion or flooding, to reduce gully erosion, or to protect and/or improve water quality in areas where added water conveyance capacity and vegetative protection are needed to control erosion resulting from concentrated runoff. *(Existing land treatment can be seen on the individual field maps.)*

USDA NRCS

Rusle Program Version:
Rusle Science Version:
Data Base:

RUSLE2 Erosion Calculation Record

File: plans\Jakobs Bros Blacktop Farm
Access Group: R2_NRCS_Fld_Office

Inputs:

Owner name	*Location*	*Info*
Jakobs Brothers	**Illinois\Whiteside County**	

Field name	*Soil*	*Slope T Value*	*Slope length, ft*	*Slope steepness, %*
86B CCCW	Whiteside, ILsoils\86B Osco silt loam, 2 to 5 percent slopes\Osco silt loam 90%	5.0	150	3.5
86B CCCB	Whiteside, ILsoils\86B Osco silt loam, 2 to 5 percent slopes\Osco silt loam 90%	5.0	150	3.5
86B WCCB	Whiteside, ILsoils\86B Osco silt loam, 2 to 5 percent slopes\Osco silt loam 90%	5.0	150	3.5
86C2 CCCW	Whiteside, ILsoils\86C2 Osco silt loam, 5 to 10 percent slopes, eroded\Osco silt loam 90%	5.0	150	7.5
86C2 CCCB	Whiteside, ILsoils\86C2 Osco silt loam, 5 to 10 percent slopes, eroded\Osco silt loam 90%	5.0	150	7.5
86C2 WCCB	Whiteside, ILsoils\86C2 Osco silt loam, 5 to 10 percent slopes, eroded\Osco silt loam 90%	5.0	150	7.5
675B CCCW	Whiteside, ILsoils\675B Greenbush silt loam, 2 to 5 percent slopes\Greenbush silt loam 95%	5.0	150	3.5
675B CCCB	Whiteside, ILsoils\675B Greenbush silt loam, 2 to 5 percent slopes\Greenbush silt loam 95%	5.0	150	3.5
675B WCCB	Whiteside, ILsoils\675B Greenbush silt loam, 2 to 5 percent slopes\Greenbush silt loam 95%	5.0	150	3.5
675C2 CCCW	Whiteside, ILsoils\675C2 Greenbush silt loam, 5 to 10 percent slopes, eroded\Greenbush silt loam 91%	5.0	150	7.5
675C2 CCCB	Whiteside, ILsoils\675C2 Greenbush silt loam, 5 to 10 percent slopes, eroded\Greenbush silt loam 91%	5.0	150	7.5
675C2 WCCB	Whiteside, ILsoils\675C2 Greenbush silt loam, 5 to 10 percent slopes, eroded\Greenbush silt loam 91%	5.0	150	7.5
279B CCCW	Whiteside, ILsoils\279B Rozetta silt loam, 2 to 5 percent slopes\Rozetta silt loam 91%	5.0	150	3.5
279B CCCB	Whiteside, ILsoils\279B Rozetta silt loam, 2 to 5 percent slopes\Rozetta silt loam 91%	5.0	150	3.5
279C2 CCCW	Whiteside, ILsoils\279C2 Rozetta silt loam, 5 to 10 percent slopes, eroded\Rozetta silt loam 94%	5.0	150	7.5
279C2 CCCB	Whiteside, ILsoils\279C2 Rozetta silt loam, 5 to 10 percent slopes, eroded\Rozetta silt loam 94%	5.0	150	7.5

280C2 CCCW	Whiteside, ILsoils\280C2 Fayette silt loam, 5 to 10 percent slopes, eroded\Fayette silt loam 95%	5.0	150	7.5
280C2 CCCB	Whiteside, ILsoils\280C2 Fayette silt loam, 5 to 10 percent slopes, eroded\Fayette silt loam 95%	5.0	150	7.5

Results:

Field name	*Management*	*Contouring system*	*Support practices*	*Terrace/diversion system*	*Cons. plan. soil loss, t/ac/yr*	*Sed. delivery*
86B CCCW	CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	a. rows up-and-down hill	-- none --	-- none --	1.3	1.3
86B CCCB	CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	a. rows up-and-down hill	-- none --	-- none --	1.8	1.8
86B WCCB	CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	a. rows up-and-down hill	-- none --	-- none --	1.3	1.3
86C2 CCCW	CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	a. rows up-and-down hill	-- none --	-- none --	3.5	3.5
86C2 CCCB	CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	e. relative row grade 50 percent of slope grade	-- none --	-- none --	4.3	4.3
86C2 WCCB	CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	e. relative row grade 50 percent of slope grade	-- none --	-- none --	3.1	3.1
675B CCCW	CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	a. rows up-and-down hill	-- none --	-- none --	1.7	1.7
675B CCCB	CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	a. rows up-and-down hill	-- none --	-- none --	2.4	2.4
675B WCCB	CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	a. rows up-and-down hill	-- none --	-- none --	1.7	1.7
675C2 CCCW	CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	a. rows up-and-down hill	-- none --	-- none --	3.5	3.5
675C2 CCCB	CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	e. relative row grade 50 percent of slope grade	-- none --	-- none --	4.3	4.3
675C2 WCCB	CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	e. relative row grade 50 percent of slope grade	-- none --	-- none --	3.1	3.1
279B CCCW	CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	a. rows up-and-down hill	-- none --	-- none --	2.0	2.0
279B CCCB	CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	a. rows up-and-down hill	-- none --	-- none --	2.8	2.8
279C2 CCCW	CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	a. rows up-and-down hill	-- none --	-- none --	4.1	4.1
279C2 CCCB	CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	e. relative row grade 50 percent of slope grade	-- none --	-- none --	5.0	5.0
280C2 CCCW	CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	a. rows up-and-down hill	-- none --	-- none --	4.1	4.1
280C2 CCCB	CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	e. relative row grade 50 percent of slope grade	-- none --	-- none --	5.0	5.0

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 86B soil type Wheat, Corn, Corn, Soybean Rotation

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 86B Osco silt loam, 2 to 5 percent slopes\Osco silt loam 90%
Slope length (horiz): 150 ft
Avg. slope steepness: 3.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Soybean, mw 7in rows	bu	60.000

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

tputs:
alue: 5.0 t/ac/yr
oil loss erod. portion: 1.3 t/ac/yr
etachment on slope: 1.3 t/ac/yr
Soil loss for cons. plan: 1.3 t/ac/yr
Sediment delivery: 1.3 t/ac/yr
Net C factor: 0.061
Net K factor: 0.28

Crit. slope length: – ft
Surf. cover after planting: – %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
10/15/0	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	66
6/15/1	Harvest, killing crop 30pct standing stubble		98
8/15/1	Manure injector, liquid high disturb.30 inch		83
10/30/1	Chisel, st. pt. 12 in deep		35
4/1/2	Cultivator, field 6-12 in sweeps		26
4/15/2	Planter, double disk opnr w/fluted coulter	Corn, grain	22
9/30/2	Harvest, killing crop 30pct standing stubble		95
10/31/2	Chisel, st. pt. 12 in deep		63
4/1/3	Cultivator, field 6-12 in sweeps		50
4/15/3	Planter, double disk opnr w/fluted coulter	Corn, grain	44
9/30/3	Harvest, killing crop 30pct standing stubble		95
5/15/4	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	79
9/1/4	Harvest, killing crop 30pct standing stubble		89

Soil conditioning index (SCI): 0.59
Avg. annual slope STIR: 59
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 86C2 soil type Wheat, Corn, Corn, Soybean Rotation

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 86C2 Osco silt loam, 5 to 10 percent slopes, eroded\Osco silt loam 90%
Slope length (horiz): 150 ft
Avg. slope steepness: 7.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Soybean, mw 7in rows	bu	60.000

Contouring: e. relative row grade 50 percent of slope grade
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 3.1 t/ac/yr
Detachment on slope: 3.1 t/ac/yr
Soil loss for cons. plan: 3.1 t/ac/yr
Sediment delivery: 3.1 t/ac/yr
Net C factor: 0.056
Net K factor: 0.37

Crit. slope length: 150 ft
Surf. cover after planting: – %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
10/15/0	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	66
6/15/1	Harvest, killing crop 30pct standing stubble		98
8/15/1	Manure injector, liquid high disturb.30 inch		83
10/30/1	Chisel, st. pt. 12 in deep		35
4/1/2	Cultivator, field 6-12 in sweeps		26
4/15/2	Planter, double disk opnr w/fluted coulter	Corn, grain	22
9/30/2	Harvest, killing crop 30pct standing stubble		95
10/31/2	Chisel, st. pt. 12 in deep		63
4/1/3	Cultivator, field 6-12 in sweeps		50
4/15/3	Planter, double disk opnr w/fluted coulter	Corn, grain	44
9/30/3	Harvest, killing crop 30pct standing stubble		95
5/15/4	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	79
9/1/4	Harvest, killing crop 30pct standing stubble		89

Soil conditioning index (SCI): 0.45
Avg. annual slope STIR: 59
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS Natural Resources Conservation Service

RUSLE2 Profile Erosion Calculation Record

Info: 675B soil type Wheat, Corn, Corn, Soybean Rotation

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 675B Greenbush silt loam, 2 to 5 percent slopes\Greenbush silt loam 95%
Slope length (horiz): 150 ft
Avg. slope steepness: 3.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Soybean, mw 7in rows	bu	60.000

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 1.7 t/ac/yr
Detachment on slope: 1.7 t/ac/yr
Soil loss for cons. plan: 1.7 t/ac/yr
Sediment delivery: 1.7 t/ac/yr
Net C factor: 0.061
Net K factor: 0.37

Crit. slope length: -- ft
Surf. cover after planting: -- %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
10/15/0	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	66
6/15/1	Harvest, killing crop 30pct standing stubble		98
8/15/1	Manure injector, liquid high disturb.30 inch		83
10/30/1	Chisel, st. pt. 12 in deep		35
4/1/2	Cultivator, field 6-12 in sweeps		26
4/15/2	Planter, double disk opnr w/fluted coulter	Corn, grain	22
9/30/2	Harvest, killing crop 30pct standing stubble		95
10/31/2	Chisel, st. pt. 12 in deep		63
4/1/3	Cultivator, field 6-12 in sweeps		50
4/15/3	Planter, double disk opnr w/fluted coulter	Corn, grain	44
9/30/3	Harvest, killing crop 30pct standing stubble		95
5/15/4	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	79
9/1/4	Harvest, killing crop 30pct standing stubble		89

Soil conditioning index (SCI): 0.56
Avg. annual slope STIR: 59
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 675C2 soil type Wheat, Corn, Corn, Soybean Rotation

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 675C2 Greenbush silt loam, 5 to 10 percent slopes, eroded\Greenbush silt loam 91%
Slope length (horiz): 150 ft
Avg. slope steepness: 7.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs WCCB	Soybean, mw 7in rows	bu	60.000

Contouring: e. relative row grade 50 percent of slope grade
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 3.1 t/ac/yr
Detachment on slope: 3.1 t/ac/yr
Soil loss for cons. plan: 3.1 t/ac/yr
Sediment delivery: 3.1 t/ac/yr
Net C factor: 0.056
Net K factor: 0.37

Crit. slope length: 150 ft
Surf. cover after planting: -- %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
10/15/0	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	66
6/15/1	Harvest, killing crop 30pct standing stubble		98
8/15/1	Manure injector, liquid high disturb.30 inch		83
10/30/1	Chisel, st. pt. 12 in deep		35
4/1/2	Cultivator, field 6-12 in sweeps		26
4/15/2	Planter, double disk opnr w/fluted coulter	Corn, grain	22
9/30/2	Harvest, killing crop 30pct standing stubble		95
10/31/2	Chisel, st. pt. 12 in deep		63
4/1/3	Cultivator, field 6-12 in sweeps		50
4/15/3	Planter, double disk opnr w/fluted coulter	Corn, grain	44
9/30/3	Harvest, killing crop 30pct standing stubble		95
5/15/4	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	79
9/1/4	Harvest, killing crop 30pct standing stubble		89

Soil conditioning index (SCI): 0.45
Avg. annual slope STIR: 59
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 675C2 soil type 3 years of corn 1 year of beans

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 675C2 Greenbush silt loam, 5 to 10 percent slopes, eroded\Greenbush silt loam 91%
Slope length (horiz): 150 ft
Avg. slope steepness: 7.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Soybean, mw 7in rows	bu	60.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00

Contouring: e. relative row grade 50 percent of slope grade
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 4.3 t/ac/yr
Detachment on slope: 4.3 t/ac/yr
Soil loss for cons. plan: 4.3 t/ac/yr
Sediment delivery: 4.3 t/ac/yr
Net C factor: 0.077
Net K factor: 0.37

Crit. slope length: 150 ft
Surf. cover after planting: -- %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		80
4/10/0	Cultivator, field 6-12 in sweeps		60
4/20/0	Planter, double disk opnr	Corn, grain	51
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		60
4/10/1	Cultivator, field 6-12 in sweeps		46
4/20/1	Planter, double disk opnr	Corn, grain	40
10/10/1	Harvest, killing crop 30pct standing stubble		95
5/15/2	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	81
8/30/2	Harvest, killing crop 30pct standing stubble		90
10/20/2	Manure injector, liquid high disturb.30 inch		57
4/1/3	Cultivator, field 6-12 in sweeps		31
4/15/3	Planter, double disk opnr	Corn, grain	23
9/1/3	Harvest, killing crop 30pct standing stubble		94

Soil conditioning index (SCI): 0.35
Avg. annual slope STIR: 45
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: Fields with Soil type 86B

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 86B Osco silt loam, 2 to 5 percent slopes\Osco silt loam 90%
Slope length (horiz): 150 ft
Avg. slope steepness: 3.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 1.3 t/ac/yr
Detachment on slope: 1.3 t/ac/yr
Soil loss for cons. plan: 1.3 t/ac/yr
Sediment delivery: 1.3 t/ac/yr
Net C factor: 0.058
Net K factor: 0.28

Crit. slope length: -- ft
Surf. cover after planting: -- %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		81
4/10/0	Cultivator, field 6-12 in sweeps		63
4/20/0	Planter, double disk opnr	Corn, grain	53
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		61
4/10/1	Cultivator, field 6-12 in sweeps		47
4/20/1	Planter, double disk opnr	Corn, grain	41
9/20/1	Harvest, killing crop 30pct standing stubble		95
9/30/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	90
6/10/2	Harvest, killing crop 30pct standing stubble		99
7/1/2	Manure injector, liquid high disturb.30 inch		92

10/1/2	Chisel, st. pt. 12 in deep		41
4/1/3	Cultivator, field 6-12 in sweeps		29
4/15/3	Planter, double disk opnr	Corn, grain	24
9/1/3	Harvest, killing crop 30pct standing stubble		95

Soil conditioning index (SCI): 0.68
Avg. annual slope STIR: 65
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 86B soil type 3 years of corn 1 year of beans

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 86B Osco silt loam, 2 to 5 percent slopes\Osco silt loam 90%
Slope length (horiz): 150 ft
Avg. slope steepness: 3.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Soybean, mw 7in rows	bu	60.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 1.8 t/ac/yr
Detachment on slope: 1.8 t/ac/yr
Soil loss for cons. plan: 1.8 t/ac/yr
Sediment delivery: 1.8 t/ac/yr
Net C factor: 0.082
Net K factor: 0.28

Crit. slope length: -- ft
Surf. cover after planting: -- %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		80
4/10/0	Cultivator, field 6-12 in sweeps		60
4/20/0	Planter, double disk opnr	Corn, grain	51
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		60
4/10/1	Cultivator, field 6-12 in sweeps		46
4/20/1	Planter, double disk opnr	Corn, grain	40
10/10/1	Harvest, killing crop 30pct standing stubble		95
5/15/2	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	81
8/30/2	Harvest, killing crop 30pct standing stubble		90
10/20/2	Manure injector, liquid high disturb.30 inch		57
4/1/3	Cultivator, field 6-12 in sweeps		31
4/15/3	Planter, double disk opnr	Corn, grain	23
9/1/3	Harvest, killing crop 30pct standing stubble		94

Soil conditioning index (SCI): 0.55
Avg. annual slope STIR: 45
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 86B soil type 3 years of Corn, 1 Year of Wheat

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County .
Soil: 86B Osco silt loam, 2 to 5 percent slopes\Osco silt loam 90%
Slope length (horiz): 150 ft
Avg. slope steepness: 3.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 1.3 t/ac/yr
Detachment on slope: 1.3 t/ac/yr
Soil loss for cons. plan: 1.3 t/ac/yr
Sediment delivery: 1.3 t/ac/yr
Net C factor: 0.058
Net K factor: 0.28

Crit. slope length: – ft
Surf. cover after planting: – %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		81
4/10/0	Cultivator, field 6-12 in sweeps		63
4/20/0	Planter, double disk opnr	Corn, grain	53
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		61
4/10/1	Cultivator, field 6-12 in sweeps		47
4/20/1	Planter, double disk opnr	Corn, grain	41
9/20/1	Harvest, killing crop 30pct standing stubble		95
9/30/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	90
6/10/2	Harvest, killing crop 30pct standing stubble		99
7/1/2	Manure injector, liquid high disturb.30 inch		92
10/1/2	Chisel, st. pt. 12 in deep		41
4/1/3	Cultivator, field 6-12 in sweeps		29
4/15/3	Planter, double disk opnr	Corn, grain	24
9/1/3	Harvest, killing crop 30pct standing stubble		95

Soil conditioning index (SCI): 0.68
Avg. annual slope STIR: 65
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 86C2 soil type 3 years of corn 1 year of beans

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 86C2 Osco silt loam, 5 to 10 percent slopes, eroded\Osco silt loam 90%
Slope length (horiz): 150 ft
Avg. slope steepness: 7.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Soybean, mw 7in rows	bu	60.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00

Contouring: e. relative row grade 50 percent of slope grade
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 4.3 t/ac/yr
Detachment on slope: 4.3 t/ac/yr
Soil loss for cons. plan: 4.3 t/ac/yr
Sediment delivery: 4.3 t/ac/yr
Net C factor: 0.077
Net K factor: 0.37

Crit. slope length: 150 ft
Surf. cover after planting: -- %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		80
4/10/0	Cultivator, field 6-12 in sweeps		60
4/20/0	Planter, double disk opnr	Corn, grain	51
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		60
4/10/1	Cultivator, field 6-12 in sweeps		46
4/20/1	Planter, double disk opnr	Corn, grain	40
10/10/1	Harvest, killing crop 30pct standing stubble		95
5/15/2	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	81
8/30/2	Harvest, killing crop 30pct standing stubble		90
10/20/2	Manure injector, liquid high disturb.30 inch		57
4/1/3	Cultivator, field 6-12 in sweeps		31
4/15/3	Planter, double disk opnr	Corn, grain	23
9/1/3	Harvest, killing crop 30pct standing stubble		94

Soil conditioning index (SCI): 0.35
Avg. annual slope STIR: 45
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: Fields 86C2 soil type 3 years corn 1 year wheat

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 86C2 Osco silt loam, 5 to 10 percent slopes, eroded\Osco silt loam 90%
Slope length (horiz): 150 ft
Avg. slope steepness: 7.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 3.5 t/ac/yr
Detachment on slope: 3.5 t/ac/yr
Soil loss for cons. plan: 3.5 t/ac/yr
Sediment delivery: 3.5 t/ac/yr
Net C factor: 0.054
Net K factor: 0.37

Crit. slope length: – ft
Surf. cover after planting: – %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		81
4/10/0	Cultivator, field 6-12 in sweeps		63
4/20/0	Planter, double disk opnr	Corn, grain	53
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		61
4/10/1	Cultivator, field 6-12 in sweeps		47
4/20/1	Planter, double disk opnr	Corn, grain	41
9/20/1	Harvest, killing crop 30pct standing stubble		95
9/30/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	90
6/10/2	Harvest, killing crop 30pct standing stubble		99
7/1/2	Manure injector, liquid high disturb.30 inch		92
10/1/2	Chisel, st. pt. 12 in deep		41
4/1/3	Cultivator, field 6-12 in sweeps		29
4/15/3	Planter, double disk opnr	Corn, grain	24
9/1/3	Harvest, killing crop 30pct standing stubble		95

Soil conditioning index (SCI): 0.50
Avg. annual slope STIR: 65
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 279B soil type 3 years of corn 1 year of beans

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 279B Rozetta silt loam, 2 to 5 percent slopes\Rozetta silt loam 91%
Slope length (horiz): 150 ft
Avg. slope steepness: 3.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Soybean, mw 7in rows	bu	60.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 2.8 t/ac/yr
Detachment on slope: 2.8 t/ac/yr
Soil loss for cons. plan: 2.8 t/ac/yr
Sediment delivery: 2.8 t/ac/yr
Net C factor: 0.081
Net K factor: 0.42

Crit. slope length: -- ft
Surf. cover after planting: -- %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		80
4/10/0	Cultivator, field 6-12 in sweeps		60
4/20/0	Planter, double disk opnr	Corn, grain	51
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		60
4/10/1	Cultivator, field 6-12 in sweeps		46
4/20/1	Planter, double disk opnr	Corn, grain	40
10/10/1	Harvest, killing crop 30pct standing stubble		95
5/15/2	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	81
8/30/2	Harvest, killing crop 30pct standing stubble		90
10/20/2	Manure injector, liquid high disturb.30 inch		57
4/1/3	Cultivator, field 6-12 in sweeps		31
4/15/3	Planter, double disk opnr	Corn, grain	23
9/1/3	Harvest, killing crop 30pct standing stubble		94

Soil conditioning index (SCI): 0.47
Avg. annual slope STIR: 45
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 279B soil type 3 years corn 1 year wheat

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 279B Rozetta silt loam, 2 to 5 percent slopes\Rozetta silt loam 91%
Slope length (horiz): 150 ft
Avg. slope steepness: 3.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 2.0 t/ac/yr
Detachment on slope: 2.0 t/ac/yr
Soil loss for cons. plan: 2.0 t/ac/yr
Sediment delivery: 2.0 t/ac/yr
Net C factor: 0.058
Net K factor: 0.42

Crit. slope length: -- ft
Surf. cover after planting: -- %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		81
4/10/0	Cultivator, field 6-12 in sweeps		63
4/20/0	Planter, double disk opnr	Corn, grain	53
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		61
4/10/1	Cultivator, field 6-12 in sweeps		47
4/20/1	Planter, double disk opnr	Corn, grain	41
9/20/1	Harvest, killing crop 30pct standing stubble		95
9/30/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	90
6/10/2	Harvest, killing crop 30pct standing stubble		99
7/1/2	Manure injector, liquid high disturb.30 inch		92
10/1/2	Chisel, st. pt. 12 in deep		41
4/1/3	Cultivator, field 6-12 in sweeps		29
4/15/3	Planter, double disk opnr	Corn, grain	24
9/1/3	Harvest, killing crop 30pct standing stubble		95

Soil conditioning index (SCI): 0.62
Avg. annual slope STIR: 65
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 279C2 soil type 3 years of corn 1 year of beans

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 279C2 Rozetta silt loam, 5 to 10 percent slopes, eroded\Rozetta silt loam 94%
Slope length (horiz): 150 ft
Avg. slope steepness: 7.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Soybean, mw 7in rows	bu	60.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00

Contouring: e. relative row grade 50 percent of slope grade
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 5.0 t/ac/yr
Detachment on slope: 5.0 t/ac/yr
Soil loss for cons. plan: 5.0 t/ac/yr
Sediment delivery: 5.0 t/ac/yr
Net C factor: 0.077
Net K factor: 0.42

Crit. slope length: 150 ft
Surf. cover after planting: – %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		80
4/10/0	Cultivator, field 6-12 in sweeps		60
4/20/0	Planter, double disk opnr	Corn, grain	51
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		60
4/10/1	Cultivator, field 6-12 in sweeps		46
4/20/1	Planter, double disk opnr	Corn, grain	40
10/10/1	Harvest, killing crop 30pct standing stubble		95
5/15/2	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	81
8/30/2	Harvest, killing crop 30pct standing stubble		90
10/20/2	Manure injector, liquid high disturb.30 inch		57
4/1/3	Cultivator, field 6-12 in sweeps		31
4/15/3	Planter, double disk opnr	Corn, grain	23
9/1/3	Harvest, killing crop 30pct standing stubble		94

Soil conditioning index (SCI): 0.30
Avg. annual slope STIR: 45
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 279C2 soil type 3 years of corn 1 year of wheat

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 279C2 Rozetta silt loam, 5 to 10 percent slopes, eroded\Rozetta silt loam 94%
Slope length (horiz): 150 ft
Avg. slope steepness: 7.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 4.1 t/ac/yr
Detachment on slope: 4.1 t/ac/yr
Soil loss for cons. plan: 4.1 t/ac/yr
Sediment delivery: 4.1 t/ac/yr
Net C factor: 0.054
Net K factor: 0.42

Crit. slope length: -- ft
Surf. cover after planting: -- %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		81
4/10/0	Cultivator, field 6-12 in sweeps		63
4/20/0	Planter, double disk opnr	Corn, grain	53
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		61
4/10/1	Cultivator, field 6-12 in sweeps		47
4/20/1	Planter, double disk opnr	Corn, grain	41
9/20/1	Harvest, killing crop 30pct standing stubble		95
9/30/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	90
6/10/2	Harvest, killing crop 30pct standing stubble		99
7/1/2	Manure injector, liquid high disturb.30 inch		92
10/1/2	Chisel, st. pt. 12 in deep		41
4/1/3	Cultivator, field 6-12 in sweeps		29
4/15/3	Planter, double disk opnr	Corn, grain	24
9/1/3	Harvest, killing crop 30pct standing stubble		95

Soil conditioning index (SCI): 0.45
Avg. annual slope STIR: 65
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 280C2 soil type 3 years of corn 1 year of beans

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 280C2 Fayette silt loam, 5 to 10 percent slopes, eroded\Fayette silt loam 95%
Slope length (horiz): 150 ft
Avg. slope steepness: 7.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Soybean, mw 7in rows	bu	60.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00

Contouring: e. relative row grade 50 percent of slope grade
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 5.0 t/ac/yr
Detachment on slope: 5.0 t/ac/yr
Soil loss for cons. plan: 5.0 t/ac/yr
Sediment delivery: 5.0 t/ac/yr
Net C factor: 0.078
Net K factor: 0.42

Crit. slope length: 150 ft
Surf. cover after planting: – %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		80
4/10/0	Cultivator, field 6-12 in sweeps		60
4/20/0	Planter, double disk opnr	Corn, grain	51
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		60
4/10/1	Cultivator, field 6-12 in sweeps		46
4/20/1	Planter, double disk opnr	Corn, grain	40
10/10/1	Harvest, killing crop 30pct standing stubble		95
5/15/2	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	81
8/30/2	Harvest, killing crop 30pct standing stubble		90
10/20/2	Manure injector, liquid high disturb.30 inch		57
4/1/3	Cultivator, field 6-12 in sweeps		31
4/15/3	Planter, double disk opnr	Corn, grain	23
9/1/3	Harvest, killing crop 30pct standing stubble		94

Soil conditioning index (SCI): 0.30
Avg. annual slope STIR: 45
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 280C2 soil type 3 years of corn 1 year of wheat

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 280C2 Fayette silt loam, 5 to 10 percent slopes, eroded\Fayette silt loam 95%
Slope length (horiz): 150 ft
Avg. slope steepness: 7.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 4.1 t/ac/yr
Detachment on slope: 4.1 t/ac/yr
Soil loss for cons. plan: 4.1 t/ac/yr
Sediment delivery: 4.1 t/ac/yr
Net C factor: 0.055
Net K factor: 0.42

Crit. slope length: – ft
Surf. cover after planting: – %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		81
4/10/0	Cultivator, field 6-12 in sweeps		63
4/20/0	Planter, double disk opnr	Corn, grain	53
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		61
4/10/1	Cultivator, field 6-12 in sweeps		47
4/20/1	Planter, double disk opnr	Corn, grain	41
9/20/1	Harvest, killing crop 30pct standing stubble		95
9/30/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	90
6/10/2	Harvest, killing crop 30pct standing stubble		99
7/1/2	Manure injector, liquid high disturb.30 inch		92
10/1/2	Chisel, st. pt. 12 in deep		41
4/1/3	Cultivator, field 6-12 in sweeps		29
4/15/3	Planter, double disk opnr	Corn, grain	24
9/1/3	Harvest, killing crop 30pct standing stubble		95

Soil conditioning index (SCI): 0.45
Avg. annual slope STIR: 65
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 675B soil type 3 years of corn 1 year of beans

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 675B Greenbush silt loam, 2 to 5 percent slopes\Greenbush silt loam 95%
Slope length (horiz): 150 ft
Avg. slope steepness: 3.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Soybean, mw 7in rows	bu	60.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn beans	Corn, grain	bushels	200.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 2.4 t/ac/yr
Detachment on slope: 2.4 t/ac/yr
Soil loss for cons. plan: 2.4 t/ac/yr
Sediment delivery: 2.4 t/ac/yr
Net C factor: 0.081
Net K factor: 0.37

Crit. slope length: -- ft
Surf. cover after planting: -- %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		80
4/10/0	Cultivator, field 6-12 in sweeps		60
4/20/0	Planter, double disk opnr	Corn, grain	51
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		60
4/10/1	Cultivator, field 6-12 in sweeps		46
4/20/1	Planter, double disk opnr	Corn, grain	40
10/10/1	Harvest, killing crop 30pct standing stubble		95
5/15/2	Drill or airseeder, double disk, w/ fluted coulters	Soybean, mw 7in rows	81
8/30/2	Harvest, killing crop 30pct standing stubble		90
10/20/2	Manure injector, liquid high disturb.30 inch		57
4/1/3	Cultivator, field 6-12 in sweeps		31
4/15/3	Planter, double disk opnr	Corn, grain	23
9/1/3	Harvest, killing crop 30pct standing stubble		94

Soil conditioning index (SCI): 0.50
Avg. annual slope STIR: 45
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS

RUSLE2 Profile Erosion Calculation Record

Info: 675B soil type 3 years corn 1 year wheat

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 675B Greenbush silt loam, 2 to 5 percent slopes\Greenbush silt loam 95%
Slope length (horiz): 150 ft
Avg. slope steepness: 3.5 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 1.7 t/ac/yr
Detachment on slope: 1.7 t/ac/yr
Soil loss for cons. plan: 1.7 t/ac/yr
Sediment delivery: 1.7 t/ac/yr
Net C factor: 0.058
Net K factor: 0.37

Crit. slope length: -- ft
Surf. cover after planting: -- %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
3/30/0	Manure injector, liquid low disturb.30 inch		81
4/10/0	Cultivator, field 6-12 in sweeps		63
4/20/0	Planter, double disk opnr	Corn, grain	53
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		61
4/10/1	Cultivator, field 6-12 in sweeps		47
4/20/1	Planter, double disk opnr	Corn, grain	41
9/20/1	Harvest, killing crop 30pct standing stubble		95
9/30/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	90
6/10/2	Harvest, killing crop 30pct standing stubble		99
7/1/2	Manure injector, liquid high disturb.30 inch		92
10/1/2	Chisel, st. pt. 12 in deep		41
4/1/3	Cultivator, field 6-12 in sweeps		29
4/15/3	Planter, double disk opnr	Corn, grain	24
9/1/3	Harvest, killing crop 30pct standing stubble		95

Soil conditioning index (SCI): 0.64
Avg. annual slope STIR: 65
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

USDA NRCS Natural Resources Conservation Service

RUSLE2 Profile Erosion Calculation Record

Info: 675C2 Soil Type 3 years of corn 1 year of wheat

File: Plan: Profile (Temp. scenario[1]) of Jakobs Bros Blacktop Farm*
Access Group: R2_NRCS_Fld_Office

Inputs:
Location: Illinois\Whiteside County
Soil: 675C2 Greenbush silt loam, 5 to 10 percent slopes, eroded\Greenbush silt loam 91%
Slope length (horiz): 150 ft
Avg. slope steepness: 7.5 %

Management	Vegetation	Yield units	Yield (# of units)
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Wheat, winter 7in rows	bushels	90.000
CMZ 04\c.Other Local Mgt Records\Jakobs corn wheat	Corn, grain	bushels	200.00

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: bury 20% more than normal
General yield level: Set by user
Rock cover: 0 %

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 3.5 t/ac/yr
Detachment on slope: 3.5 t/ac/yr
Soil loss for cons. plan: 3.5 t/ac/yr
Sediment delivery: 3.5 t/ac/yr
Net C factor: 0.054
Net K factor: 0.37

Crit. slope length: -- ft
Surf. cover after planting: -- %

Date	Operation	Vegetation	Surf. res. cov. after op, %
3/30/0	Manure injector, liquid low disturb.30 inch		81
4/10/0	Cultivator, field 6-12 in sweeps		63
4/20/0	Planter, double disk opnr	Corn, grain	53
9/20/0	Harvest, killing crop 30pct standing stubble		95
10/30/0	Chisel, st. pt. 12 in deep		61
4/10/1	Cultivator, field 6-12 in sweeps		47
4/20/1	Planter, double disk opnr	Corn, grain	41
9/20/1	Harvest, killing crop 30pct standing stubble		95
9/30/1	Drill or airseeder, double disk, w/ fluted coulters	Wheat, winter 7in rows	90
6/10/2	Harvest, killing crop 30pct standing stubble		99
7/1/2	Manure injector, liquid high disturb.30 inch		92
10/1/2	Chisel, st. pt. 12 in deep		41
4/1/3	Cultivator, field 6-12 in sweeps		29
4/15/3	Planter, double disk opnr	Corn, grain	24
9/1/3	Harvest, killing crop 30pct standing stubble		95

Soil conditioning index (SCI): 0.50
Avg. annual slope STIR: 65
Wind & irrigation-induced erosion for SCI: 0 t/ac/yr

Acreage and Proportionate Extent of the Soils

Whiteside County, Illinois

Map symbol	Map unit name	Acres	Percent
8D3	Hickory clay loam, 10 to 18 percent slopes, severely eroded	601	0.1
51A	Muscatune silt loam, 0 to 2 percent slopes	1,035	0.2
61A	Atterberry silt loam, 0 to 2 percent slopes	381	*
68A	Sable silty clay loam, 0 to 2 percent slopes	661	0.1
86B	Osco silt loam, 2 to 5 percent slopes	9,330	2.1
86C2	Osco silt loam, 5 to 10 percent slopes, eroded	1,336	0.3
274D2	Seaton silt loam, 10 to 18 percent slopes, eroded	7,773	1.7
279B	Rozetta silt loam, 2 to 5 percent slopes	1,061	0.2
279C2	Rozetta silt loam, 5 to 10 percent slopes, eroded	4,041	0.9
280B	Fayette silt loam, 2 to 5 percent slopes	3,308	0.7
280C2	Fayette silt loam, 5 to 10 percent slopes, eroded	8,044	1.8
675B	Greenbush silt loam, 2 to 5 percent slopes	13,518	3.0
675C2	Greenbush silt loam, 5 to 10 percent slopes, eroded	4,699	1.1
943D3	Seaton-Timula silt loams, 10 to 18 percent slopes, severely eroded	12,086	2.7
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently floooded	4,813	1.1
Total		72,687	16.3

* Less than 0.1 percent.

Blacktop

RUSLE2 Related Attributes

Whiteside County, Illinois

Map symbol and soil name	Pct. of map unit	Hydrologic group	Kf	T factor	Representative value		
					% Sand	% Silt	% Clay
8D3:							
Hickory	90	B	.32	4	30.0	39.0	31.0
51A:							
Muscatune	95	B	.28	5	5.0	71.0	24.0
61A:							
Atterberry	98	B	.37	5	5.0	72.0	23.0
68A:							
Sable	90	B/D	.24	5	2.0	67.0	31.0
86B:							
Osco	90	B	.28	5	4.0	74.0	22.0
86C2:							
Osco	90	B	.37	5	3.5	73.5	23.0
274D2:							
Seaton	98	B	.43	5	4.0	78.0	18.0
279B:							
Rozetta	91	B	.43	5	4.0	76.0	20.0
279C2:							
Rozetta	94	B	.43	5	4.0	75.0	21.0
280B:							
Fayette	97	B	.43	5	4.0	75.0	21.0
280C2:							
Fayette	95	B	.43	5	4.0	71.0	25.0
675B:							
Greenbush	95	B	.37	5	4.0	75.0	21.0
675C2:							
Greenbush	91	B	.37	5	4.0	74.5	21.5
943D3:							
Seaton	45	B	.43	4	4.0	77.5	18.5
Timula	40	B	.55	4	3.0	83.0	14.0
3451A:							
Lawson	92	B	.32	5	8.0	74.0	18.0

Water Features

Whiteside County, Illinois

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
8D3:										
Hickory	B	Medium	Jan-Dec			---	---	None	---	None
51A:										
Muscatune	B	Low	January	1.0-2.0	>6.0	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	---	None
			March	1.0-2.0	>6.0	---	---	None	---	None
			April	1.0-2.0	>6.0	---	---	None	---	None
			May	1.0-2.0	>6.0	---	---	None	---	None
61A:										
Atterberry	B	Low	January	0.5-2.0	>6.0	---	---	None	---	None
			February	0.5-2.0	>6.0	---	---	None	---	None
			March	0.5-2.0	>6.0	---	---	None	---	None
			April	0.5-2.0	>6.0	---	---	None	---	None
			May	0.5-2.0	>6.0	---	---	None	---	None
68A:										
Sable	B/D	Negligible	January	0.0-1.0	>6.0	0.0-0.5	Brief	Frequent	---	None
			February	0.0-1.0	>6.0	0.0-0.5	Brief	Frequent	---	None
			March	0.0-1.0	>6.0	0.0-0.5	Brief	Frequent	---	None
			April	0.0-1.0	>6.0	0.0-0.5	Brief	Frequent	---	None
			May	0.0-1.0	>6.0	0.0-0.5	Brief	Frequent	---	None
86B:										
Osco	B	Low	February	4.0->6.0	>6.0	---	---	None	---	None
			March	4.0->6.0	>6.0	---	---	None	---	None
			April	4.0->6.0	>6.0	---	---	None	---	None

Water Features

Whiteside County, Illinois

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
86C2:										
Osco	B	Medium	February	4.0->6.0	>6.0	---	---	None	---	None
			March	4.0->6.0	>6.0	---	---	None	---	None
			April	4.0->6.0	>6.0	---	---	None	---	None
274D2:										
Seaton	B	Medium	Jan-Dec			---	---	None	---	None
279B:										
Rozetta	B	Low	February	4.0->6.0	>6.0	---	---	None	---	None
			March	4.0->6.0	>6.0	---	---	None	---	None
			April	4.0->6.0	>6.0	---	---	None	---	None
279C2:										
Rozetta	B	Medium	February	4.0->6.0	>6.0	---	---	None	---	None
			March	4.0->6.0	>6.0	---	---	None	---	None
			April	4.0->6.0	>6.0	---	---	None	---	None
280B:										
Fayette	B	Low	Jan-Dec			---	---	None	---	None
280C2:										
Fayette	B	Medium	Jan-Dec			---	---	None	---	None
675B:										
Greenbush	B	Low	February	4.0->6.0	>6.0	---	---	None	---	None
			March	4.0->6.0	>6.0	---	---	None	---	None
			April	4.0->6.0	>6.0	---	---	None	---	None

Water Features

Whiteside County, Illinois

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
675C2:										
Greenbush	B	Medium	February	4.0->6.0	>6.0	---	---	None	---	None
			March	4.0->6.0	>6.0	---	---	None	---	None
			April	4.0->6.0	>6.0	---	---	None	---	None
943D3:										
Seaton	B	Medium	Jan-Dec			---	---	None	---	None
Timula	B	Medium	Jan-Dec			---	---	None	---	None
3451A:										
Lawson	B	Low	January	1.0-2.0	>6.0	---	---	None	Brief	Frequent
			February	1.0-2.0	>6.0	---	---	None	Brief	Frequent
			March	1.0-2.0	>6.0	---	---	None	Brief	Frequent
			April	1.0-2.0	>6.0	---	---	None	Brief	Frequent
			May	1.0-2.0	>6.0	---	---	None	Brief	Frequent
			June	---	---	---	---	None	Brief	Frequent
			November	---	---	---	---	None	Brief	Frequent
			December	---	---	---	---	None	Brief	Frequent

Section 16 Nutrient Management Plan description and P & N risk assessments

NUTRIENT MANAGEMENT PLAN

Soil Testing Plan
Soils will be tested a minimum of every 4 years to a depth of 7" in the fall after crop removal and prior to manure application. One sample shall be taken for each 2.5 acres. Samples shall be analyzed for pH, Phosphorus, and Potassium, at a minimum. *(Source - IL Agronomy Handbook, NRCS Standard 590)*

Manure Testing Plan
Manure samples shall be taken annually during manure application from each storage facility and manure type (liquid or solid), and analyzed for Total N, Ammonium Nitrogen, Organic N, P_2O_5, and K_2O.

Illinois Phosphorus Risk Assessment
(Illinois NRCS – Nutrient Management Standard, Code 590)

Phosphorus (P) loading to surface water can accelerate eutrophication. The availability of other nutrients and light penetration into the water column will also influence the response of waterbodies to phosphorus. Land managers who desire to minimize transport of phosphorus need a practical assessment procedure to assist them in making decisions concerning the applications of phosphorus-containing materials.

Factors such as: the amount of erosion and runoff; the form, amount, and distribution of Phosphorus in the soil: and fertilizer and manure application rate, timing, and placement determine P loss from agricultural fields and the resulting P loading to water resources. Most phosphorus compounds found in soils have low water solubility. Consequently, P loss from agricultural land was once thought to be primarily associated with soil erosion. In many cases, sediment-bound P is still the dominant form in which P losses from agricultural fields occur. Over the past decade, research has shown that phosphorus can be lost in runoff in dissolved forms. High dissolved P concentration in runoff is more frequently observed where soil P levels are high particularly near the soil surface. High soil P levels, however, do not automatically equate to high dissolved P in runoff. As stated earlier, numerous factors interact to create the potential for P losses from agricultural fields. Many of the basic processes that govern P transport are known. It is difficult, however, to know at any given site which factor(s) influence P loss rates proportionally more than others. Insufficient data exist in Illinois to definitively guide landowners as to which factors in a specific field contribute the most to P losses. There are indications, however, that where solution P losses from crop fields are dominant, high soil P concentration at the surface are likely the most dominant factor.

The purpose of this guide is to (1) help land managers identify factors in agricultural fields known to contribute to "P" runoff loss and, (2) identify practices that can reduce phosphorus loss from agricultural fields. The factors most commonly associated with both dissolved and sediment-bound P loss are presented. For each factor, guidance is provided to help land managers estimate the relative potential for P transport to surface water. It is important to realize that the procedure is not a predictive tool for P loading. It is merely a tool for assessing the relative potential for phosphorus transport.

Use of P Risk Assessment:
When possible, land managers should adopt management practices that minimize phosphorus loss risk factors. If phosphorus containing materials need to be applied to fields that have medium or high risk potentials, recommended management practices should be used to reduce the risk of phosphorus transport.

Examples of Practices to Reduce Phosphorus Risk Potential

Soil Erosion Control

- Use residue management and/or structural practices to reduce sheet and rill erosion
- Install filter strips, riparian forest buffers, contour buffer strips, field borders, or wetlands

Minimize Connectivity to Water Bodies

- Install water and sediment control basins to reduce quantity of sediment transported offsite
- Install conservation buffers adjacent to water resources to create nutrient application setbacks

Reduce Runoff Potential

- Terrace fields to reduce slope length
- Contour strip cropping, contour buffer strips, cover crops, crop rotations that include meadow and/or small grains, and crop residue management

Lower Soil Test Phosphorus

- Sample soils on high testing fields to determine vertical distribution of the phosphorus
- If phosphorus is concentrated in the top two inches of soil, invert the soil (e.g. moldboard plow) where soil erosion will not be a problem
- Avoid stratification by placing phosphorus materials beneath the top two inches of the soil surface

Practice Nutrient Management

- Apply no more than maintenance levels of phosphorus when soil test P reaches the levels described in the Illinois Agronomy Handbook, Chapter 11.
- When soil test P levels reach 300 lb/acre, only maintenance P levels may be applied to land.

Site Characteristic Definitions

1. **SOIL EROSION** – Sheet and rill erosion as measured by the most current version of the Revised Universal Soil Loss Equation (RUSLE).
   (Low = < T, Medium = >T, ≤ 2T, High = > 2 T)

2. **CONNECTIVITY TO WATER** – Defines the potential for P to be transferred from the site to a perennial stream or water body. The more closely connected the runoff is from the field via concentrated flow (from a defined grassed waterway or surface drain) to a perennial stream or water body the higher the potential for P transport.
   (Low = > 1,000', Medium = < 1,000', ≥ 200', High = < 200')

3. **RUNOFF CLASS** – Represents the effects of the Hydrologic Soil Group (A, B, C, D) on runoff. This factor represents the site's runoff vulnerability.
   (A = Low, B = Medium, C,D = High)

4. **SOIL "P" TEST (Bray P1 or Mehlich 3)** – Soil test procedure using the Bray P1 extraction, or other extraction test calibrated to bray P1, that provides an index of plant available P expressed in lbs. P/Acre (PPM x 2 = lbs./Acre where soil samples are obtained to the 6 2/3" depth)
   (Low = < 35 lbs/acre, Medium = 35-70 lbs/acre, High = > 70 lbs/acre)

5. **P INPUTS** – Represents the combined effect of application method and application rate on the potential for phosphorus to be transported in runoff in both dissolved and sediment-bound phases. Phosphorus application rate is expressed in terms of the University of Illinois maintenance phosphorus recommendations applicable to crops/yields grown on the site being evaluated. Phosphorus may be in the form of commercial fertilizer or organic materials such as manure, animal waste lagoon supernatant, wastewater from municipal or agricultural sources or nonagricultural biosolids such as sewage sludge or landscape waste. When using the "P Inputs Matrix", it is assumed that soil incorporation is performed prior to runoff events. Instances where incorporation is typically not performed prior to runoff events will be considered as non-incorporated surface applications.
   (See P Input Matrix Below)

P INPUT MATRIX

	Application Rate		
Application Method	**≤ UI Recommendations**	**> UI – 150% UI**	**> 150% UI**
Incorporation or injection > 3" below surface	Low	Low	Low
Shallowly incorporated surface applications < 3"	Low	Medium	High
Non-incorporated surface applications	Medium	High	High

Phosphorus Risk Assessment for Individual Fields

The table below identifies specific risk factors that may be present in a given field. No attempt has been made to "average" the factors and assign a composite rating for the field. It is recognized that risk factors do not act independently to influence phosphorus loss from agricultural fields and P loading into water resources. Simple averaging however, assumes that all risk factors have the same amount of influence. Attempts to objectively weight some factors more or less than others would be desirable, but difficult without supporting data. The phosphorus assessment procedure is not a process based or empirical model. The procedure was developed as a conservation planning tool. The tool is designed to provide guidance to select and plan conservation measures that will lower the potential for phosphorus loss from agricultural fields and P loading into water resources.

Explanation of General Risk Assessment Ratings

Low – Low potential for P movement from the field. No adverse impacts to surrounding areas (i.e. surface waters) are anticipated if current farming practices are continued.

Medium – Medium potential for P movement from the field.

High - High potential for P movement from the field. Adverse impacts to surface waters from excess P loading may occur.

Very High - Very high potential for P movement from the field. Adverse impacts to surface waters are likely. No manure shall be applied until conservation practices are put into place to reduce the potential for P movement.

Explanation of Using P Risk Assessment for Manure Applications

Soil Erosion – No manure will be applied to any field unless it rates "Low"

Connectivity to Surface Water – 200' setbacks around all surface water will bring all fields under the "Medium" rating

P soil test – Fields in this plan have "Medium/Optimum" ratings for P soil tests. Planned manure applications will maintain P, and avoid excessive buildup.

IL Phosphorous Risk Assessment
Jakobs Brothers Blacktop Farm

Field Name	Spread Acres	Connectivity to Surface Water	Runoff Potential	P1 Soil Test	P input Matrix
Blacktop 1	82.1	High	Medium	High	Low, incorporate or inject >3" below the surface
Blacktop 2	22.3	Medium	Medium	High	Low, incorporate or inject >3" below the surface
Blacktop 3	103.0	High	Medium	High	Low, incorporate or inject >3" below the surface
Blacktop 4-5	193.2	High	Medium	High	Low, incorporate or inject >3" below the surface
Blacktop 6	72.0	High	Medium	High	Low, incorporate or inject >3" below the surface
Meiners	105.6	High	Medium	High	Low, incorporate or inject >3" below the surface
Spangler 1	13.8	High	Medium	High	Low, incorporate or inject >3" below the surface
Spangler 2	51.0	High	Medium	High	Low, incorporate or inject >3" below the surface
Spangler 3	153.6	High	Medium	High	Low, incorporate or inject >3" below the surface
Zeigler 1	150.2	High	Medium	High	Low, incorporate or inject >3" below the surface
Zeigler 2	150.2	High	Medium	High	Low, incorporate or inject >3" below the surface
Day 4	197.3	High	Medium	High	Low, incorporate or inject >3" below the surface
Wilger	152.6	Medium	Medium	High	Low, incorporate or inject >3" below the surface
St. Woesner	116.2	High	Medium	High	Low, incorporate or inject >3" below the surface
Freds 40	38.6	High	Medium	High	Low, incorporate or inject >3" below the surface
Freds 80	75.1	High	Medium	High	Low, incorporate or inject >3" below the surface
Weigel North	66.4	High	Medium	High	Low, incorporate or inject >3" below the surface
Weigle South	75.4	Medium	Medium	High	Low, incorporate or inject >3" below the surface

Nitrogen Risk Assessment

(Illinois NRCS-Nutrient Management Standard, Code 590)

	Soil Texture[2]		
Application Timing & Temp[1]	**Coarse**	**Medium**	**Fine**
Fall with inhibitor > 60°F	High	High	High
Fall with inhibitor < 60°F	High	Medium	Medium
Fall w/out inhibitor > 60°F	High	High	High
Fall w/out inhibitor < 60°F	High	Medium	Medium
Spring w/out inhibitor	Medium	Medium	Medium-Low
Spring with inhibitor	Medium-Low	Low	Low
Spring split-applied or sidedress	Medium-Low	Low	Low

[1] Temperatures refer to soil temperature measured at a depth of 4 inches. For this assessment, inhibitors refer to nitrification inhibitors

[2] Soil Texture: **Coarse: sand, loamy sand, sandy loam**
Medium: silt, silt loam, loam
Fine: silty clay loam, silty clay, clay, clay loam, sandy clay, loam, sandy clay

Fields are categorized according to the predominant soil type of the field.

Coarse:

Medium: *All fields in this plan are predominantly silt loams*

Fine:

Nitrogen Risk Assessment for Individual Fields

All fields in this plan have the same risk potential for N leaching under the following levels of management.

- High potential if applied in the fall with an inhibitor when soil temperature at a depth of 4" is greater than 60°F.
- Medium potential if applied in the fall with an inhibitor when soil temperature at a depth of 4" is less than 60°F.
- High potential if applied in the fall without an inhibitor when soil temperature at a depth of 4" is greater than 50°F.
- Medium potential if applied in the fall without an inhibitor when soil temperature at a depth of 4" is less than 50°F.
- Medium (medium soils) or medium-low (fine soils) potential if applied in the spring without an inhibitor.
- Low potential if applied in the spring with an inhibitor.
- Low potential if applied in the spring split applied or sidedressed.

Section 17 Manure Application Considerations

Considerations for Manure Application

Setbacks

(Illinois Livestock Management Facilities Act, Section 900.803)

- Applications within ¼ mile of any residence not part of the facility must be injected or incorporated on the day of application UNLESS operation was in existence prior to May 21,1996 and is applying via irrigation or this existing facility is applying waste on frozen ground
- Manure may not be applied within 200' of surface water unless the water is upgrade or there is adequate diking
- Manure may not be applied within 150' of potable water supply wells
- Manure may not be applied in a 10-year flood plain UNLESS manure is injected or incorporated
- Manure may not be applied in grass waterways

Winter Application of Manure

Application to frozen or snow-covered soils is not recommended. However, if manure application is necessary, only small amounts shall be applied that adequately address waste storage concerns until non-frozen land is available. These instances must be documented in the CNMP records. If winter application is deemed necessary, applications are to be applied only if ALL the following criteria are met:

Application rate is limited to 10 wet tons/acre for solid manure more than 50% moisture and 5 wet tons for manure less than 50% moisture. Applications are to be made on land with at least 90% surface residue cover (e.g. good quality hay or pasture field, all corn grain residue remaining after harvest, all wheat residue cover remaining after harvest).

Manure shall not be applied on more than 20 contiguous acres. Contiguous areas for application are to be separated by a break of at least 200 feet. Utilize those areas for manure application that are furthest from streams, ditches, waterways, surface water, etc. (areas that present the least runoff potential and are furthest from surface water).

Increase the application setback distance to 200 feet "minimum" from all grassed waterways, surface drainage ditches, streams, surface inlets, water bodies. This setback distance may need to be further increased due to local conditions.

Additional winter application criteria for fields with significant slopes more than 5%.
Manure shall be applied in alternating strips 60 to 200 feet wide generally on the contour, or in the case of contour strips on the alternating strips. The fields must have erosion control practices implemented and have a RUSLE2 soil loss of less than T.

Manure Application on Steep Fields

Waste shall not be applied to land with slopes over 15%.

Manure Application on Fields Subject to Flooding

Manure is not to be land-applied on soils that are frequently flooded during the period when flooding is expected unless incorporated immediately.

General Liquid Manure Applications

For liquid wastes, the application rate is to be adjusted to the most limiting factor to avoid ponding, surface runoff, subsurface drainage (tile) discharge, the nutrient needs of the field, or the nitrogen or phosphorus risks of the field. The total application is not to exceed the field capacity of the upper 8 inches of soil. See the guide for determining soil moisture content below. No applications should be made when the field reaches 100% of its available capacity. The actual application rate shall be adjusted during application to avoid ponding or runoff. Bare/crusted soils may require some tillage to improve infiltration.

Tile Drained Fields

Fields or areas of fields that are subsurface (TILE) drained require additional precautions. When liquid wastes are applied to fields with TILE drains, the liquid can follow soil macro-pores (in dry soils) directly to the tile drains creating a surface water pollution hazard from direct tile discharge. (A field is considered TILE drained if ½ or more of the field is subsurface (tiled) drained; however, even a field with one subsurface drainage line may present a risk of manure/wastewater movement to subsurface drains and cause a direct discharge. Do not apply application rates (volume) that would exceed AWC in the upper 8 inches.

Prior to manure application, use a tool (AERWAY tool or similar tool) that can disrupt/close (using horizontal fracturing) the preferential flow paths (worm holes, cracks, root channels) in the soil, or till the surface of the soil 3-5 inches deep to a condition that will absorb the liquid wastes. The purpose is to have the surface soil act as a sponge to soak up the liquid manure and keep it out of preferential flow channels. This is especially important if shallow tile are present (<2 feet deep). Any pre-application tillage should leave as much residue as possible on the soil surface. The adsorption of liquid manure by the soil in the root zone will minimize nitrogen loss and the manure/nutrient runoff potential. For perennial cops (hay or pasture), or continuous no till fields where tillage is not an option, all tile outlets from the application area are to be plugged prior to application. This criteria (4b.) may be waived if the producer can verify there is no prior history of manure discharge via subsurface drains. However, if there is a discharge, the producer is liable for damages and may risk being classified as a CAFO.

If injection is used, inject only deep enough to cover the manure with soil. Till the soil at least 3 inches below the depth of injection prior to application, or all tile outlets from the application area are to be plugged prior to application. This criteria may be waived if the producer can verify there is no prior history of manure discharge via subsurface drains. However, if there is a discharge the producer is liable for damages and may risk being classified as a CAFO.

In addition to tillage prior to surface liquid waste application or injection, install in-line tile flow control structures or (inflatable) tile plugs that can mechanically stop or regulate tile flow either

prior to application, or have on site if needed to stop tile flow. Use caution not to back tile water where it may impair the functioning of an offsite subsurface drainage system. This criteria may be waived if the producer can verify there is no prior history of manure discharge via subsurface drains. However, if there is a discharge the producer is liable for damages and may risk being classified as a CAFO.

Repair broken tile or blow holes prior to application.

Guide to Determining Soil Moisture Content

*Soil Conditions that apply to fields in this plan are in **bold.***

Available Moisture Remaining in the Soil	Sand-Sandy Loam	Loam-Silt Loam	Clay Loam-Clay
0% moisture Wilting point	Dry and loose; flows through fingers	**Powdery, sometimes slightly crusted but easily broken into powder**	Hard, baked and cracked; difficult to break into powder
50% or less soil moisture	Loose, feels dry	**Forms a weak ball when squeezed but will not stick to tools**	Pliable but not slick, balls under pressure, sticks to tools
50-75% or less soil moisture	Balls under pressure, but seldom holds together when bounced in hand	**Forms a ball under pressure; somewhat plastic; slicks slightly under pressure. Does not stick to tools**	Forms a ball; ribbons out between thumb and forefinger, has a slick feeling
75% to Field Capacity	Forms a weak ball, breaks easily when bounced in the hand; can feel moistness	**Forms ball; very pliable; slicks readily if relatively high in clay, clings slightly to tools**	Easily ribbons out between fingers; has a slick feeling, very sticky.
100% Field Capacity	Soil mass clings together. Upon squeezing, outline of ball is left on hand.	**On squeezing, no free water appears on soil, but wet outline of ball on hand**	On squeezing, no free water appears on soil, but wet outline of ball on hand. Sticky enough to cling to fingers

Livestock Management Facilities Act Regulatory Provisions

For facilities with > 1,000 animal units,
follow these guidelines on manure application to conform to
state regulatory provisions for the LMFA.

o) Waste applied within 1320' (1/4 mile) of any residence not part of facility shall be injected or incorporated on the day of application

p) Waste shall not be applied within 200' of surface water unless the water is up-gradient or there is adequate diking and waste will not be applied within 150' of potable water supply wells

q) Waste shall not be applied within a 10-year floodplain unless the injection or incorporation method is used

r) Waste shall not be applied in waterways

s) Waste that is spread on frozen or snow-covered ground will be limited to land areas with:

1. less than 5% slope, OR
2. adequate erosion control provisions exist

t) Certified livestock manager shall inspect all bermtops, exterior berm sides, and non-submerged interior berm sides for evidence of erosion, burrowing animal activity, and other indications of berm degradation on a frequency of not less than once every two weeks

u) Waste shall not be applied during a rainfall or to saturated soil and that conservative waste loading rates will be used in the case of a high water table or shallow earth cover to fractured bedrock. Caution should be exercised in applying livestock wastes, particularly on porous soils, so as not to cause nitrate or bacteria contamination of groundwaters.

Land Application Record Keeping

Records must be maintained for 5 years

The producer must maintain records to document plan implementation. Records should include the following, when applicable:

- soil test results and recommendations for nutrient application
- amounts, analyses, and source of nutrients applied
- dates and method of nutrient applications
- crop rotations, planting and harvesting dates, yields, and crop residues removed
- results of water, plant, and organic by-product analyses
- dates of review, person performing review, and recommendations that resulted from the review of the CNMP

Operation and Maintenance for CNMP

- Periodic review of plan to determine if adjustments or modifications to the plan are needed. At a minimum, the plan should be reviewed and revised with each soil test cycle (recommended annually).
- Protection of fertilizer and organic by-product storage facilities from weather and accidental leakage or spillage,
- Calibration of application equipment to ensure uniform distribution of material at planned rates
- Documentation of the actual rates at which nutrients where applied. When the actual rates differ from the planned rates, records will indicate reasons for the differences.

Section 18 Recommended Manure Application Rates

"Red Cheat Sheet"

Crop	Yield							
Corn	250	Following Corn						
Corn	220	Following Beans						
Wheat	90	Following Corn						
Wheat	90	Following Beans						
Beans	60	Following Corn or Wheat						
Corn	200	Following Corn or Wheat						
Corn	1200	Following Beans						
Wheat	90	Following Corn						
Wheat	90	Following Beans						
Beans	60	Following Corn or Wheat						

These recommendations are based on the stated yields and crops, and assume fields have NO recent manure applications. These are maximums only, and can be used as guides when Corn or other factors exist that require deviations from planned manure applications. Previous applications should be taken into these appropriate rates by decreasement from present calculated.

Also, these recommendations are based on ESTIMATED manure analysis. ACTUAL laboratory analysis is needed to determine real nutrient loading rates. However, until these numbers are available, these estimates can serve as guidelines.

N available (lb/ac) = (Anl-N * App Method Efficiency) + (Org-N * .25)

Previous manure applications should be given N credits =

(App rate in 1,000 gal * Org N (lbs/1,000 gal) * Mineralization Factor) * 2

Mineralization Factors: Year 1 = .35, Year 2 = .175, Year 3 = .0875, Year 4+ = 0.00

Efficiency of Application = Liquid Broadcast = 0.50, Solid Broadcast = 0.25, Aerway = 0.80, Liquid Incor = 0.80

Running Totals of Manure Production
Jakobs Brothers Blacktop Farm

		Total Produced	Year End Total Produced	Total Applied	Year End Totals
		gallons	gallons	gallons	gallons
CROP YEAR	On Hand				
2008	Liquid	5,486,658	5,486,658	5,466,443	20,215
2009	Liquid	5,486,658	5,506,873	5,485,334	21,539
2010	Liquid	5,486,658	5,508,197	5,462,170	46,027
2011	Liquid	5,486,658	5,532,685	5,472,150	60,535
2012	Liquid	5,486,658	5,547,193	5,542,429	4,764

		Total Produced	Year End Total Produced	Total Applied	Year End Totals
		Ton	Ton	Ton	Ton
CROP YEAR	On Hand				
2008	Solid	1,452	1,452	1,452	0
2009	Solid	1,452	1,452	1,452	0
2010	Solid	1,452	1,452	1,452	0
2011	Solid	1,452	1,452	1,452	0
2012	Solid	1,452	1,452	1,448	4

Section 19 Storage & Application Summaries

Summary of Manure Applications

Applications are entered for the crop year (i.e. 2008 applications are applied in Fall 2007 - Spring 2008 for 2008 crop)

FSA Tract #	Field Name	Spread Acres	Year	Crop	Planned Manure (1000 gal)	Planned Manure (total gal)	Manure Source	Planned N Applied lbs/ac	Planned P Applied lbs/ac	Planned K Applied lbs/ac	Commercial N needed on applied acres (lbs/ac)
6456	Blacktop 1	81.1	2007	Corn							
			2008	Corn	8.0	648,800	Liquid	116	116	144	124
2544			2009	Beans	0.0						-27
			2010	Corn	8.0	648,800	Liquid	116	144	192	71
4, 5			2011	Corn	0.0						207
			1012	Corn	8.0	648,800	Liquid	116	144	192	107
6456	Blacktop 2	22.3	2007	Corn							
			2008	Corn	8.0	178,400	Liquid	116	116	144	124
2544			2009	Corn	0.0						213
			2010	Wheat	0.0						77
3			2011	Corn	8.3	185	Solid	36	33	58	197
			1012	Corn	0.0						209
6456	Blacktop 3	101	2007	Corn							
			2008	Corn	0.0						240
2544			2009	Beans	0.0						0
			2010	Corn	13.8	1,394,065	Liquid	200	248	331	0
2			2011	Corn	0.0						194
			1012	Corn	0.0						217
6456	Blacktop 4-5	176.2	2007	Wheat							
			2008	Corn	8.2	1,452	Solid	36	36	33	204
2544 2545			2009	Corn	0.0						213
			2010	Corn	12.0	2,114,400	Liquid	174	216	288	52
1, 6, 7			2011	Beans	0.0						-47
5-15			1012	Corn	12.2	2,147,779	Liquid	177	219	293	0

Summary of Manure Applications continued

Applications are entered for the crop year (i.e. 2008 applications are applied in Fall 2007 - Spring 2008 for 2008 crop)

FSA Tract #	Field Name	Spread Acres	Year	Crop	Planned Manure (1000 gal)	Planned Manure (total gal)	Manure Source	Planned N Applied lbs/ac	Planned P Applied lbs/ac	Planned K Applied lbs/ac	N Def (lbs/ac)
6456	Blacktop 6	56.9	2007	Corn							
2545			2008	Corn	8.0	455,200	Liquid	116	116	144	124
1-4			2009	Wheat	0.0						63
			2010	Corn	8.0	455,200	Liquid	116	144	192	111
			2011	Corn	0.0						207
			1012	Beans	0.0						-17
6456	Meiners	100.6	2007	Corn							
4035			2008	Corn	0.0						240
1, 2			2009	Wheat	0.0						90
			2010	Corn	8.3	830	Solid	36	33	58	204
			2011	Corn	0.0						213
			1012	Beans	0.0						-14
6456	Spangler 1	12.3	2007	Corn							
1242			2008	Corn	8.0	98,400	Liquid	116	116	144	124
2			2009	Corn	0.0						213
			2010	Corn	0.0						227
			2011	Wheat	0.0						83
			1012	Corn	8.8	108	Solid	128	158	211	109

Summary of Manure Applications continued

Applications are entered for the crop year (i.e. 2008 applications are applied in Fall 2007 - Spring 2008 for 2008 crop)

FSA Tract #	Field Name	Spread Acres	Year	Crop	Planned Manure (1000 gal)	Planned Manure (total gal)	Manure Source	Planned N Applied lbs/ac	Planned P Applied lbs/ac	Planned K Applied lbs/ac	N Def (lbs/ac)
6456	Spangler 2	49.5	2007	Corn							
			2008	Corn	8.0	396,000	Liquid	116	116	144	124
1242			2009	Corn	0.0						213
			2010	Corn	15.6	772,200	Liquid	226	281	374	1
1			2011	Wheat	0.0						31
			1012	Corn	8.0	396,000	Liquid	116	144	192	95
6456	Spangler 3	152.3	2007	Corn							
			2008	Corn	12.0	1,827,600	Liquid	174	174	216	66
1242			2009	Corn	0.0						200
			2010	Corn	0.0						220
1			2011	Wheat	0.0						80
			1012	Corn	8.8	1,340	Solid	38	35	62	197
6456	Zeigler 1	140.3	2007	Corn							
			2008	Wheat	0.0						90
1346			2009	Corn	6.7	935	Solid	29	27	47	211
			2010	Corn	0.0						218
3-6			2011	Corn	8.0	1,122,400	Liquid	116	144	192	113
			1012	Corn	0.0						208
6456	Zeigler 2	77.2	2007	Corn							
			2008	Wheat	0.0						90
1346			2009	Corn	6.7	517	Solid	29	27	47	211
1242			2010	Corn	0.0						218
1,2			2011	Corn	8.0	617,600	Liquid	116	144	192	113
3,4			1012	Corn	0.0						208

Summary of Manure Applications continued

Applications are entered for the crop year (i.e. 2008 applications are applied in Fall 2007 - Spring 2008 for 2008 crop)

FSA Tract #	Field Name	Spread Acres	Year	Crop	Planned Manure (1000 gal)	Planned Manure (total gal)	Manure Source	Planned N Applied lbs/ac	Planned P Applied lbs/ac	Planned K Applied lbs/ac	N Def (lbs/ac)
6456	Day 4	195.9	2007	Corn							
			2008	Beans	0.0						0
3145			2009	Corn	13.8	2,703,420	Liquid	200	248	331	0
			2010	Corn	0.0						194
1-4			2011	Corn	13.5	2,644,650	Liquid	196	243	324	21
			1012	Wheat	0.0						34
6456	Wilger	152.6	2007	Corn							
			2008	Corn	0.0						240
3158			2009	Corn	8.0	720,800	Liquid	116	144	192	124
			2010	Wheat	0.0						63
1			2011	Corn	8.3	1,267	Solid	36	33	58	191
			1012	Corn	0.0						206
6456	St. Woesner	112.4	2007	Corn							
			2008	Corn	0.0						240
1347			2009	Corn	12.0	1,348,800	Liquid	174	216	288	66
			2010	Beans	0.0						-40
1-5			2011	Corn	0.0						180
			1012	Corn	13.5	1,517,400	Liquid	196	243	324	34
6456	Freds 40	37.4	2007	Corn							
			2008	Beans	0.0						0
4189			2009	Corn	8.0	299,200	Liquid	116	144	192	84
			2010	Corn	0.0						213
1, 5-8			2011	Corn	8.0	299,200	Liquid	116	144	192	111
			1012	Beans	0.0						-33

Summary of Manure Applications continued

Applications are entered for the crop year (i.e. 2008 applications are applied in Fall 2007 - Spring 2008 for 2008 crop)

FSA Tract #	Field Name	Spread Acres	Year	Crop	Planned Manure (1000 gal)	Planned Manure (total gal)	Manure Source	Planned N Applied lbs/ac	Planned P Applied lbs/ac	Planned K Applied lbs/ac	N Def (lbs/ac)
6456	Freds 80	72.8	2007	Corn							
			2008	Beans	0.0						0
4189			2009	Corn	8.0	582,400	Liquid	116	144	192	84
			2010	Corn	0.0						213
2-4			2011	Corn	8.0	582,400	Liquid	116	144	192	111
			1012	Beans	0.0						-33
6658	Weigel North	65.2	2007	Wheat							
			2008	Corn	12.0	782,400	Liquid	174	174	216	66
5259			2009	Corn	0.0						200
			2010	Corn	0.0						220
1			2011	Wheat	0.0						80
			1012	Corn	8.0	521,600	Liquid	116	144	192	119
6658	Weigle South	75.4	2007	Corn							
			2008	Corn	12.0	904,800	Liquid	174	174	216	66
5259			2009	Wheat	0.0						50
			2010	Corn	8.3	622	Solid	36	33	58	184
2-4			2011	Corn	0.0						203
			1012	Corn	8.0	603,200	Liquid	116	144	192	105

Running Totals of Manure Production
Jakobs Brothers Blacktop Farm

		Total Produced	Year End Total Produced	Total Applied	Year End Totals
		gallons	gallons	gallons	gallons
CROP YEAR	On Hand				
2008	Liquid	5,486,658	5,486,658	5,291,600	195,058
2009	Liquid	5,486,658	5,681,716	5,654,620	27,096
2010	Liquid	5,486,658	5,513,754	5,384,665	129,089
2011	Liquid	5,486,658	5,615,747	5,266,250	349,497
2012	Liquid	5,486,658	5,836,155	5,834,779	1,376

		Total Produced	Year End Total Produced	Total Applied	Year End Totals
		Ton	Ton	Ton	Ton
CROP YEAR	On Hand				
2008	Solid	1,452	1,452	1,452	0
2009	Solid	1,452	1,452	1,452	0
2010	Solid	1,452	1,452	1,452	0
2011	Solid	1,452	1,452	1,452	0
2012	Solid	1,452	1,452	1,448	4

References
Jakobs Brothers Blacktop Farm

Manure Sample Analysis *(#/1000 gal or #/ton basis)*

	N	NH4	OrgN	1st Year AvN	P2O5	K20
Liquid	27	8	19	14.49	18	24
Solid	7	3	4	4.34	4	7

Application Method N retention	% N retention, from MWPS
SURFACE, SOLID	0.75
SURFACE, LIQUID	0.8
AERWAY	0.9
SURFACE, INCORP	0.95
INJECT	0.98
IRRIGATE	0.7
NONE	0

Organic N Mineralization	% of OrgN	LMFA Regulations
Year of App	0.35	
Year 1 after App	0.35	
Year 2 after App	0.175	
Year 3 after App	0.0875	
Year 4 after App	0.04375	

N, P, & K Requirements lbs/bu or t, from IL Agronomy Handbook

Crop	N	P	K
Corn	1.2	0.43	0.28
Soybeans	0	0.85	1.3
Corn Silage	1.2	2.6	7
Wheat	1	0.9	0.3
Grass Hay	150	12	50
Alfalfa Hay	0	12	50

Section 20 Supplemental Nutrients Needed

Projected Soil P & K levels-

Time to reach 300/lbs acre

Projected Soil P & K Levels
Jakobs Brothers Blacktop Farm

Field Name	Acres	Current Soil Test P	Current Soil Test K	Change in Test P	Change in Test K	Projected Soil Test P	Projected Soil Test K	Time to Reach 300 lbs/ac
Blacktop 1	81.1	182	734	20	102	202	836	23
Blacktop 2	22.3	142	657	-34	-34	108	623	-19
Blacktop 3	101	150	641	-7	21	143	662	-89
Blacktop 4-5	176.2	174	731	14	84	188	815	36
Blacktop 6	56.9	170	608	-4	34	166	642	-117
Meiners	100.6	148	545	-30	-40	118	505	-20
Spangler 1	12.3	118	638	-20	4	98	642	-36
Spangler 2	49.5	175	589	-38	-49	137	540	-13
Spangler 3	152.3	142	574	-34	-33	108	541	-19
Zeigler 1	140.3	175	559	-9	34	166	593	-54
Zeigler 2	77.2	152	528	5	79	157	607	124
Day 4	195.9	124	639	17	115	141	754	42
Wilger	152.6	124	538	-34	-34	90	504	-21
St. Woesner	112.4	98	464	17	92	115	556	48
Freds 40	37.4	117	577	-8	17	109	594	-88
Freds 80	72.8	122	582	-8	17	114	599	-85
Weigel North	65.2	107	538	-14	23	93	561	-56
Weigle South	75.4	145	575	-34	-34	111	541	-18

Change in Soil Test = Crop uptake for 2007-2010 - Nutrients applied to field for 2007-2010 in manure
9 lbs P required to change soil test 1 lb
4 lbs K required to change soil test 1 lb

Projected levels are based on planned crop rotations and planned manure applications.

Jakobs Brothers Blacktop Farm
Supplemental Nutrients
Crop Year 2009

					Recommended Supplemental Nutrients if No Manure is Applied			
Field Name	Acres	Crop	Yield	lbs N/ac	lbs P2O5 for Maintenance	lbs P2O5 for Buildup *	lbs K2O for Maintenance	lbs K2O for Buildup **
Blacktop 1	82.1	Beans	60	0	0	0	0	0
Blacktop 2	22.3	Corn	200	240	0	0	0	0
Blacktop 3	103	Beans	60	0	0	0	0	0
Blacktop 4-5	193.2	Corn	200	240	0	0	0	0
Blacktop 6	72	Wheat	90	90	0	0	0	0
Meiners	105.6	Wheat	90	90	0	0	0	0
Spangler 1	13.8	Corn	200	240	0	0	0	0
Spangler 2	51	Corn	200	240	0	0	0	0
Spangler 3	153.6	Corn	200	240	0	0	0	0
Zeigler 1	150.2	Corn	200	240	0	0	0	0
Zeigler 2	80.1	Corn	200	240	0	0	0	0
Day 4	197.3	Corn	200	200	0	0	0	0
Wilger	152.6	Corn	200	240	0	0	0	0
St. Woesner	116.2	Corn	200	240	0	0	0	0
Freds 40	38.6	Corn	200	200	0	0	0	0
Freds 80	75.1	Corn	200	200	0	0	0	0
Weigel North	66.4	Corn	200	240	0	0	0	0
Weigle South	75.4	Wheat	90	90	0	0	0	0

Crop Year 2010

					Recommended Supplemental Nutrients if No Manure is Applied			
Field Name	Acres	Crop	Yield	lbs N/ac	lbs P2O5 for Maintenance	lbs P2O5 for Buildup *	lbs K2O for Maintenance	lbs K2O for Buildup **
Blacktop 1	82.1	Corn	200	200	0	0	0	0
Blacktop 2	22.3	Wheat	90	90	0	0	0	0
Blacktop 3	103	Corn	200	200	0	0	0	0
Blacktop 4-5	193.2	Corn	200	240	0	0	0	0
Blacktop 6	72	Corn	200	240	0	0	0	0
Meiners	105.6	Corn	200	240	0	0	0	0
Spangler 1	13.8	Corn	200	240	0	0	0	0
Spangler 2	51	Corn	200	240	0	0	0	0
Spangler 3	153.6	Corn	200	240	0	0	0	0
Zeigler 1	150.2	Corn	200	240	0	0	0	0
Zeigler 2	80.1	Corn	200	240	0	0	0	0
Day 4	197.3	Corn	200	240	0	0	0	0
Wilger	152.6	Wheat	90	90	0	0	0	0
St. Woesner	116.2	Beans	60	0	0	0	0	0
Freds 40	38.6	Corn	200	240	0	0	0	0
Freds 80	75.1	Corn	200	240	0	0	0	0
Weigel North	66.4	Corn	200	240	0	0	0	0
Weigle South	75.4	Corn	200	240	0	0	0	0

Crop Year 2011

					Recommended Supplemental Nutrients if No Manure is Applied			
Field Name	Acres	Crop	Yield	lbs N/ac	lbs P2O5 for Maintenance	lbs P2O5 for Buildup *	lbs K2O for Maintenance	lbs K2O for Buildup **
Blacktop 1	82.1	Corn	200	240	0	0	0	0
Blacktop 2	22.3	Corn	200	240	0	0	0	0
Blacktop 3	103	Corn	200	240	0	0	0	0
Blacktop 4-5	193.2	Beans	60	0	0	0	0	0
Blacktop 6	72	Corn	200	240	0	0	0	0
Meiners	105.6	Corn	200	240	0	0	0	0
Spangler 1	13.8	Wheat	90	90	0	0	0	0
Spangler 2	51	Wheat	0	90	0	0	0	0
Spangler 3	153.6	Wheat	90	90	0	0	0	0
Zeigler 1	150.2	Corn	200	240	0	0	0	0
Zeigler 2	80.1	Corn	200	240	0	0	0	0
Day 4	197.3	Corn	200	240	0	0	0	0
Wilger	152.6	Corn	200	240	0	0	0	0
St. Woesner	116.2	Corn	200	200	0	0	0	0
Freds 40	38.6	Corn	200	240	0	0	0	0
Freds 80	75.1	Corn	200	240	0	0	0	0
Weigel North	66.4	Wheat	90	90	0	0	0	0
Weigle South	75.4	Corn	200	240	0	0	0	0

Crop Year 2012

					Recommended Supplemental Nutrients if No Manure is Applied			
Field Name	Acres	Crop	Yield	lbs N/ac	lbs P2O5 for Maintenance	lbs P2O5 for Buildup *	lbs K2O for Maintenance	lbs K2O for Buildup **
Blacktop 1	82.1	Corn	200	240	0	0	0	0
Blacktop 2	22.3	Corn	200	240	0	0	0	0
Blacktop 3	103	Corn	200	240	0	0	0	0
Blacktop 4-5	193.2	Corn	200	200	0	0	0	0
Blacktop 5	0	Grass	1	150	12	101	50	260
Blacktop 6	72	Beans	60	0	0	0	0	0
Meiners	105.6	Beans	60	0	0	0	0	0
Spangler 1	13.8	Corn	200	240	0	0	0	0
Spangler 2	51	Corn	200	240	0	0	0	0
Spangler 3	153.6	Corn	200	240	0	0	0	0
Zeigler 1	150.2	Corn	200	240	0	0	0	0
Zeigler 2	80.1	Corn	200	240	0	0	0	0
Day 4	197.3	Wheat	90	90	0	0	0	0
Wilger	152.6	Corn	200	240	0	0	0	0
St. Woesner	116.2	Corn	200	240	0	0	0	0
Freds 40	38.6	Beans	60	0	0	0	0	0
Freds 80	75.1	Beans	60	0	0	0	0	0
Weigel North	66.4	Corn	200	240	0	0	0	0
Weigle South	75.4	Corn	200	240	0	0	0	0

* Buildup is based on buildup applications applied over a 4 year period. So, buildup =(9(Desired soil test - Actual soil test))/4

** Buildup is based on buildup applications applied over a 4 year period. So, buildup = (4(Desired soil test - Actual soil test))/4