

Operations Files DB Update notes

Fall 2011 to 3-29-12

This file contains the notes that define the changes being made to the .crop files used in WEPS. The date indicates the day that the NRCS Operations XX-XX-XX.zip was issued. All computers using WEPS should always be using the newest version of the crop files, and always do a recursive Update WEPS Management Files (from the MCCREW Mgt editor) as a new set of crops is published. CMZ template managements will be updated and posted as crop files are published. Users can then download the new CMZ template file without doing the update step locally. **ALL LOCAL MANAGEMNT MUST BE UPDATED LOCALLY after the new set of files are downloaded.**

New posted Operation files will be sent out to FO computers and installed. The **C:\Documents and Settings\All Users\Application Data\USDA\WEPS\Databases\NRCS\operations** directory using a XP computer is the location for the Crops data files. Windows 7 & Vista computers will have a different path starting,

C:\ProgramsData\USDA\WEPS\Databases\NRCS\operations (hidden files) Leave the file zipped. Then, delete the older dated crop zip file if loading manually. Lastly, do an *Update WEPS Management Files* process in the MCCREW editor (tools button) on all files that will be used again in the future, usually in a local directory such as *C:\Documents and Settings\All Users\Application Data\USDA\WEPS\Databases\NRCS\operations\local* **OR** *C:\Documents and Settings\All Users\Application Data\USDA\WEPS\Databases\db\man\NRCS\local*

NRCS Operations 1-30-11: (Sent with the Feb, 2011 update)

Continuous disturbance and smoothing.opn was added to be used in estimating potential soil loss. This operation should not be used in any conservation planning runs.

Sprayer, defoliant, remove leaves.opn: This operation is used to defoliate crops and allow the wind to blow the leaves away. They are removed from the field and not counted in the total residue. Do not use this if the leaves stay on the field over winter. This was added to simulate winter damage to winter crops such as winter wheat. South Dakota winter wheat usually loses it's leaves most winter from blowing snow and cold.

Planter, double disk oprn, 15 inch row spacing.oprn: Added by request.

Stalk chopper, rolling, light disturbance.oprn: Added by request. Rolling Basket Incorporator, typically a component behind combination finishing tools, field cultivators or light tandem finishing disks. Tool levels surface, lightly incorporates fertilizer or chemicals.

Roller, residue incorporator.oprn: Added by request. Smooth roller w/ 3 inch spade lugs used to flatten and hair pin residue into wet soil in a flooded rice field after harvest. Typified by tool known as a "water buffalo" used in southern rice production.

Roller, residue.oprn: Added by request. Smooth roller w/ crimper bars used to kill and flatten covercrops.

Planter, small veg seed, 8x60.oprn, Planter, small veg seed.oprn, Planter, transplanter, vegetable, no-till.oprn, and Planter, tranplanter, vegetable.oprn: Changed the P5 to allow the preexisting ridges and furrows to set the ridge roughness.

All grazing green operations: Changed stem removal to 0 to prevent the stand from thinning.

Add Non-Crop Mulch.oprn: Adjusted mulch values to match the wood chips on the surface.

Cultivator, between beds, add residue.oprn: Changed mulch values from wood to grain straw.

Shred residue, 4 in ht.oprn: This is a new operation to allow user to select a higher cut height than the 2 in standard Shredder, flail or rotary operation. Similar to the 6 in cut in RUSLE. P42 (inches) used to cut biomass cut to a 4 in ht and leave all biomass in the field. This assumes no flattening for wheel traffic (mostly used in row crops), and does not kill the crop. MAS 1-5-11

Shred residue, 6 inch stubble.oprn: P42 (inches) used to cut biomass cut to a 6 in ht and leave all biomass in the field. This assumes no flattening for wheel traffic (mostly use in row crops), and does not kill the crop. MAS 1-4-11

Shredder, beet topper, 1 in ht.oprn: Flail shredder set to cut tops of crops like sugar beets or carrots. Nearly all the leaves are cut off and spread on the surface leaving the top of the root or tuber exposed. 1-4-11 DTL. This is a new operation needed to be used when removing the tops (flatten to ground) of root crop before harvest. It has a 1 in height setting. All tops stay in the field. MAS 1-4-11

Shredder, flail or rotary, filberts and pecan.oprn: Rotary mower or flail shredder used to chop prunings and brush. Also cuts and flattens existing weed or grass cover. Does not kill cover crop 030303 DTL. Rotary mower or flail shredder set to leave 4 inch stubble height. Adds User specified amount (mass) of mulch (woody trimmings). MAS 1-5-11

Shredder, flail or rotary.oprn: P42 is used to set a height of cut and removed the flattening P24. The 0.90 fraction used in RUSLE is by mass. WEPS fraction is by height. It is not the same as RUSLE and cannot be used. Set the height to 2 inches per the conversation the Dave Lightle. He said that most corn shredders are set to 2 inches. Cotton shredding is much higher, use the 6 in shredder. A new operation was also created for root crop defoliation where all of the green tops are flatten to residue without killing the crop, "Shredder, beet topper". Kill crop was removed because of the interference with most harvest operations if used before harvest. MAS 1-5-11

Drill, deep furrow 7 to 10 in spacing.oprn: Corrected an error in the ridge spacing. Sp went from 15 inches to 8.5 inches MAS 1-6-11.

Planter, in-row subsoiler low disturbance: Corrected a typo in the burial rate of Non-Fragile residue. It was 0.3 and now is 0.03. Corrected the spelling in the name also.

Harvest, roses: Added four harvest operations for special management in AZ, Harvest, roses, bare root, 1st, 2nd, 3rd, and 4th.

Prune, roses, machine: Added for special rose management in AZ.

Harvest, dig root crops res. on surf. and Harvest, dig root crops res. buried: This operation was leaving older residue from previous crops standing. This was incorrect. All residue is flattened by digging the root crops.

NRCS Operations 7-15-11 (Sent with the new Model 1.2.9)

Roller, smooth, Roller, on beds, Roller, corrugated packer, and Roller, corrugated packer 6 by 16: Changed flattening from Crops and Residue to only Residue. MN uses this roller to flatten the residue and break the surface crust after planting soybeans. By flattening both residue and crop the soybean stand were being reduced by 95%.

Roller, crop crimper: Added this new roller to that is similar to other roller except that this one flattens standing crop by 95%.

Strip till bed conditioner: Removed process 31 because the tiller is sometimes used in a growing cover crop. With process 31 in the operation the tillers was killing the cover crop. MAS 4-25-11

Drill or airseeder, double disk: Deleted the G2 process because all process only affects 0.65 of the surface. This is set a 0.65 with G1 process in the beginning. 5-11-11 MAS

Subsoil disk ripper: Subsoil ripper with tandem disk gangs in front and leveling disks behind. Similar to DMI ecolo-tiger TM 730B and 9300 101606 DTL Added this as a new operation. MAS 5-12-11

Subsoiler Bedder: Added notes to say that this is like a Rome Pegasus listing machine used after harvest of cotton. MAS 6-7-11.

Drill or air seeder, combo field cult, dd openers: RUSLE2 notes-Combination Seedbed finisher and double disk opener drill consisting of a field cultivator, a rolling basket incorporator and double disk opener drill. Example: JD 730 Air disk drill. 05-11-11 DTL

Build new record for the air drill. The JD730 photos sent to us from ID had a single row of tine harrow ahead of the rolling basket. The cultivator has 12 in sweeps, and the dd openers have rubber packer wheels behind the openers. This drill would be use in dryland summer fallow in ID. MAS 5-11-11

Cultivator, row between beds, Cultivator, rotary on beds, and Cultivator, between beds, add residue: Changed the P5 Ridge and Dikes to reflect the height of the previous tillage. The operation now will show the ridge height of the planter or the previous tillage. MAS 6-3-11

All green Grazing operation: Changed the reports to have only the green crop biomass removed show up on the summary report.

Initialize Pasture: Added new operation. This operation is used in an established perennial grass pasture to initialize growth. Similar to the begin growth in RUSLE2. It will call in a crop. It can be placed in the dormant period just before the first season of growth. Fred Fox, ARS added some hard code to WEPS to limit how much root growth perennial grass accumulates.

Erosion blanket application: Added factors to simulate 4000 lbs/ac small grain straw MAS 7-7-11

Chisel, winged with furrow diker: This is a new operation. Chisel plow shanks on 30 inch spacing with winged straight points and a furrow diker. 071211 DTL This operation is used after planting a crop such as potatoes to slow runoff from irrigation. Requested from southern ID. Ridge height is 8 inches. MAS 7-12-11

Disk, offset, heavy, low random roughness after root rake: This operation was modified from the standard disk to show the dry smooth condition after the root raking and burning for harvest of sugarcane on Maui in HI. The random roughness was changed to 0.2 in. and ridge

ht. was changed from 4 in. to 2 in. to better model the smooth conditions after the root raking and 2 subsoil operations. MAS 7-15-11

Planter, sugarcane, low random roughness: This operation was modified from the standard sugarcane planter to show the dry smooth condition after planting sugarcane on Maui in HI. The random roughness was changed to 0.2 in. to better model the smooth conditions after planting sugarcane. MAS 7-15-11

Subsoiler, low random roughness after root raking: This operation was modified from the standard subsoiler to show the dry smooth condition after the burning and root raking of sugarcane on Maui in HI. The random roughness was changed to 0.3 in. to better model the smooth conditions after the root raking of the sugarcane. MAS 7-15-11

NRCS Operations 10-11 started (Not sent yet)

Harvest, onion - Created new file for Onion Harvest. R2-Note :Harvest onions, after bulbs have been lifted out of the ground with a rod weeder to dry. Increased flattening fraction. 08/31/11 GGF. This operation lifts the Onions off the ground and onto slotted steel chain conveyer, and then blows all residues out the back onto the surface of the ground. No residue is removed. MAS 10-21-11 No record in the translation file.

Chisel, winged with furrow diker - Changed the surface disturbance from 35% to 25% on the second set of disturbance processes. MAS 10-21-11

Harvest, hay, grass, Harvest, hay, legume, and Harvest, hay, no regrowth - Reset the fuel use to 1.92 gal/ac MAS 10-21-11

Subsoil disk ripper, roller smooth - This is the same tool as the Subsoil disk ripper except the smooth roller was added. MAS 10-21-11

Burn, moderate intensity - Correct a burn error with the P62, 75 to 0.75 change. MAS 10-25-11

Chisel, st. pt. 5 in deep, coil tine har - Created combination tool. Chisel plow with straight points operated at 5 inch depth. 012605 DTL; Cloned from Chisel plow st pt. Edit to RUSLE MAS 11-19-07. Added coiled tine harrow dragged behind to above file 09-13-11 GGF. Built new file from RUSLE2 values LOS 10-25-11

Chisel, st. pt. 5 in deep - Corrected random roughness, ridges and dikes, and bury flat biomass values to match RUSLE2. los 10-26-11

Harrow, coil tined - Corrected ridge height and spacing to match RUSLE2. Added a 1in spacing for WEPS to keep the operation from failing. 10-26-11 LOS

Chisel, st. pt.,coil tine har - Created new operation from RUSLE data. MAS 10-27-11. Chisel st pt 060701 DTL with a coiled tine harrow dragged behind 09-13-11 GGF

Chisel, sweep shovel 5 in. depth - Slight correction in rock resurfacing 11-1-11 MAS

Chisel, sweep shovel 5 in. depth, coil tine har - Created on 11-1-11 MAS

Chisel, sweep shovel, coil tine har - Created on 11-1-11 MAS

Cultivator, field 6-12 in sweeps - Corrected Speed of operation numbers 11-1-11 MAS

Cultivator, field 6-12 in sweeps, coil tine har - Created on 11-1-11 MAS

Cultivator, field w/ spike points, coil tine har - Changed name by taking out the "w/". Created 11-1-11 MAS

Bedder, hipper, disk hiller - Corrected the tillage depths and other residue values 11-1-11 MAS

Cultivator, rotary on beds - Corrected resurfacing Numbers 11-2-11 MAS

Cultivator, rotary on beds, Bedder, hipper, disk hiller - Created this file 11-2-11 MAS

Disk, offset, heavy, roller, smooth - Added this combination tool to the DB. MAS 11-21-11

Disk, offset, heavy - Corrected the Burial values MAS 11-21-11

Disk tandem heavy primary op., roller, smooth - Added this combination tool to the DB MAS 12-1-11.

Drill or airseeded, hoe opener in hvy residue, fert openers - Added to DB. Name is not the same as RUSLE because GGF used a w/ in the name. I remove the w/ and put in a , instead. MAS 12-1-11

Drill or airseeded, hoe chisel openers 12-15 in spac., fert openers - Added this record to the DB. Changed the first / and the w/ in name to a - and a , in the name. Changed the translation file to fix the names from RUSLE. Percent disturbance for the fertilizer shanks was lowered from 0.25 to 0.15 by GGF as the two operations were joined. MAS 12-1-11

Drill or airseeded, hoe chisel openers 6-12 in spac., fert opener - Added this record to the DB. Changed the first / and the w/ in name to a - and a , in the name. Changed the translation to fix the names from RUSLE. Percent disturbance for the fertilizer shanks was lowered from 0.25 to 0.15 by GGF as the two operations were joined. MAS 12-5-11

Fert applic. anhyd knife 12 in, coil tine har - Combined Fert. applic. anhyd knife 12 in and Harrow, coil tine. Fert applic. anhyd knife 12 in, 6/7/01, with coiled tine harrow. 09/16/11 GGF Added 12-07-11 LOS.

Fert applic. shank low disturbance, 12 in, coil tine har - Added to WEPS 12-8-11 MAS. Fert applic. anhyd knife 12 in, 6/7/01, with coiled tine harrow. 09/16/11 GGF. Added to WEPS 12-8-11 MAS

Fert. applic. anhyd knife 15 in spacing high disturbance, coil tine har - Added to WEPS 12-12-11 MAS

Fert. applic. anhyd knife 15 in spacing, coil tine har - Added to the WEPS DB 12-13-11 MAS

Harrow, rolling - Rolling Harrow similar to Unverferth single basket reel. Built from a combination of coil tine harrow and rolling basket. 09-16-11 GGF Added to WEPS DB 12-13-11 MAS.

Lister, 30 in with fert applic. - This is a 30 in sp tool for both the fertilizer and the ridges. Added to the WEPS DB 12-13-11 MAS

Lister, 30 in - Added to the WEPS DB 12-13-11

Planter, strip till, shallow subsoiler - Added to WEPS DB 12-13-11. This has a subsoil shank set to 15 in depth. The second set of tillage parameters represents both the coulter and the rolling basket. 12-13-11 MAS

Planter, strip till, subsoiler - Added to WEPS DB 12-13-11. This has a subsoil shank set to 15 in depth. The second set of tillage parameters represents both the coulter and the rolling basket. 12-13-11 MAS

Rodweeder, harrow, spike tooth - Added 12-14-11 MAS.

Rodweeder - Corrected the resurfacing from 0.0 to 0.05. MAS 12-14-11

Subsoil disk ripper, coulter smooth, rlng bskt - This has a set of straight disks, then a two gang ripper, then a light tandem disk, and finally a rolling basket. Added to WEPS DB. 12-16-11 MAS

Chisel plow, coulter, st. pts., cover disks, rlng basket - Coulter caddy chisel plow with straight points or winged straight points, 2 ranks of leveling disks and a rolling basket incorporator. May be equipped with Phillips harrow in front of coulters. Typical of the Krause Dominator" 033109 DTL modified energy use 092711 LOS Added to the DB 12-16-11 MAS

Chisel plow, coulter, twst. pts., cover disks - Added to the WEPS DB 12-16-11 This is a Disk, light-Chisel, twisted pt-Disk, light tool. MAS

Chisel plow, disk, st. pts., cover disks - Added to the WEPS DB 12-16-11 This is a Disk, light-Chisel, st pt-Disk, light tool. MAS

Sprayer, fungicide and insecticide tank mix - Added to WEPS DB 12-16-11 MAS

Harvest, Cotton, Harvest Cotton, 1st and 2nd harvest - Corrected a transposed number for the fuel use. 1.35 is now 1.53. 12-19-11 MAS

Harvest, hand pull - Corrected the STIR and the fuel use data. 12-19-11 MAS

Harvest, peanut digger - Corrected the STIR factor to 18.564. MAS 12-19-11

Harvest, roses, bare root, 1st, 2nd, 3rd, and 4th - Added the fuel use and a STIR values from Harvest, hand pull. 12-19-11 MAS

Harvest, tobacco, burley, and Harvest tobacco, burley, mechanical harvest - Added to the WEPS DB. 12-19-11 MAS

All Harvest, tobacco(s) - Edits were made to all the tobacco harvests. Read the notes. 12-19-11.

Cultivator, rotary on beds, Bedder, hipper, disk hiller - Deleted Kill Crop process 12-27-11

Fert applic., aerial - Added to WEPS DB 12-27-11 MAS

Harvest, hand pick vegetables - This is a partial harvest only 50% of the yield is taken with this harvest. This operation **MUST** be followed by a final harvest operation. Crops that use multiple harvests must be manually calibrated. Added 12-27-11 MAS

Harvest, hand pick vegetables, last - This is a last or final harvest where ALL (100% or 1.0) of the remaining yield is taken with this harvest. This operation can be a standalone harvest, but **MUST** be used if the Harvest, hand pick vegetables is used in a multiple harvest system. It must be manually calibrated. Added 12-27-11 MAS

Harvest, rootcrops, manually - Added to the WEPS DB. 12-27-11 MAS

Harvest, vine crops, manually - Corrected the Diesel Energy gal/ac to 0.35 12-27-11 MAS

Harvest, grass or legume seed, remove forage - Changed the P42 to match R2, Changed res harvest from 0.85 to 0.95, and standing residue from 0.85 to 0.2. MAS 2-16-12

Harvest, hand pick: Adjusted the Energy use to 0.00000010 gal/ac 2-23-12

Plow, disk - Added this to the DB MAS 2-23-12

Subsoiler, in row strip conditioner - Corrected the random roughness. MAS 2-23-12

Chisel plow, coulter, twst. pts. - Added to DB. MAS 2-23-12

Fert. applic. single disk opener, low disturbance, 30 inch spac - Added to WEPS. 2-24-12
MAS

Sprayer, post emergence and fert. tank mix - Added to the WEPS 2-28-12

Sprayer, fungicide - Added to DB 3-1-12

Planter, strip till, 22 inch - This is a standard planter on 22 in sp with a ridge height of 1 in.
Added to the DB 3-1-12 MAS

Harvest, grass or legume seed, burn forage - Changed the P43 process to a P42 cut to height. It will remove 85% of green biomass and 85% of the standing residue from previous year's growth. Use this harvest with the appropriate grass seed crop file. Cool season grass need to be used in cool season areas, and warm season grass in warm season areas. Do not try to calibrate the yield by changing the Biomass adjustment factor as with most crops. The user can adjust the Biomass adjustment factor to get appropriate fall green growth the first year. There will be an imbalance in the Residue to Grain ratio. The yield will be high compared to the residue produced. It now cuts the crop at 12 inches of height. MAS 3-27-2012

Harvest, grass or legume seed, leave forage - Changed the P43 process to a P42 cut to height. It will remove 85% of green biomass and 85% of the standing residue from previous year's growth. Use this harvest with the appropriate grass seed crop file. Cool season grass need to be used in cool season areas, and warm season grass in warm season areas. Do not try to calibrate the yield by changing the Biomass adjustment factor as with most crops. The user can adjust the Biomass adjustment factor to get appropriate fall green growth the first year. There will be an imbalance in the Residue to Grain ratio. The yield will be high compared to the residue produced. It now cuts the crop at 12 inches of height. MAS 3-27-2012

Harvest, grass or legume seed, remove forage - Changed the P43 process to a P42 cut to height. It will remove 85% of green biomass and 85% of the standing residue from previous year's growth. Use this harvest with the appropriate grass seed crop file. Cool season grass need to be used in cool season areas, warm season grass in warm season areas. Do not try to calibrate the yield by changing the Biomass adjustment factor as with most crops. The user can adjust the Biomass adjustment factor to get appropriate fall green growth the first year. There will be an imbalance in the Residue to Grain ratio. The yield will be high compared to the residue produced. It now cuts the crop at 4 inches of height. MAS 3-27-2012

Pruning - This record is cloned from Add Non-Crop Mulch. User needs to adjust the mass added to the surface of the soil; Default is 2000 lbs/ac. MAS 3-29-2012