

Crop Files DB Update notes

Fall 2011 to 3/5/12

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 Crop 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 crop files are sent to the FO users or downloaded.**

New posted Crop files will be sent out to FO computers and installed. The **C:\Documents and Settings\All Users\Application Data\USDA\WEPS\Databases\NRCS\crops** 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\crops** (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\crops\local* **OR** *C:\Documents and Settings\All Users\Application Data\USDA\WEPS\Databases\db\man\NRCS\local*.

NRCS Crop 1-30-11: (sent with the Fed Update package)

Weed growth - There are 9 Weed growth records that have been changed to have them grow better in the warm states in the south. The old record used a winter pea file as the root, now we use collard greens. Weed now grow correctly in the south.

Cover Issue - There are a group of crops that had an incorrect ground cover factor. Buckwheat, Alfalfa (all files), Mustard, greens, Mustard seed, spring, Taro, Turfgrass, Timothy, Switchgrass, Tall fescue, Mint, Lettuce, Legume Cover, all of the grasses, Crambe, Celery, Cabbage, and Asparagus. These factors were changed from the high cover factor that ARS gave NRCS to the Small Grain, Soybean, Peanut, and everything else curve listed in Ag Handbook 703. This has shown to slightly increase some runs using these crops.

Stem Diameter Issue – All cotton records have been changed to correct a leaf to stem ratio issue that caused the stems to be the size of corn stalks. They now are 3/8 to 1/2 inch in size. This has caused a slight increase to all managements that use cotton.

Roses, bud stalk to bag market: This crop was added by request from AZ.

Carrots, processing and Carrots, fresh market: The Biomass Adjustment factors were moved back to 1.0 and the Biomass Conversion Eff. factor was changed from 20 to 45 to boost the yields up. They still under produce in two places where they were tested. They will likely need to be calibrated any place where they are used

NRCS Crop 6-3-11: (sent with the new model Version 1.2.9)

All Cotton files except for the stripper cotton: Fred Fox ARS, Manhattan, KS recommended that we further change all Cotton records. The Stem Silhouettes have been changes to, a to 0.0535108 and b to 0.6177926. This will insure that the stem dia. does not become too large and show too small an erosion rate.

Forages: Many forages had incorrect moisture contents. All forages (forage in the name) and most perennials unless otherwise noted in the named (hay, silage, etc.) will have yield weights expressed as air dry weights. This will be a change in many common forage runs. Just think dry weight unless the name explains the common field weights such as hay at 12-15% and silage as 60-70%.

Triticale, hay, spring planted: Created a new file for spring planted Triticale. A grower in Hermiston, OR was planting triticale in the spring and the standard file would not grow. The file was cloned from spring barley, hay. Use this file when planting Triticale where there are no cold temperatures to vernalize the plant. Triticale, hay (standard file) will not grow more than 1 in planted in the spring. This file will grow like spring grain. It grew 2 t/ac with 820 lb/ac residue at a 2in cut height in Hermiston, OR.

Winter Wheat files: KS requested that we review the Wheat, winter file because the erosion rate was too high on a winter wheat, NT-chemical fallow rotation in Finney Co., KS. We found that only about 8% of the stalks were left standing after 440 days in the fallow period. Standing Stem Persistence in NT Small-Grain Fields, by Jean Steiner, 1994 mentioned that 45% of WW stems and 46% of spring wheat stems remain standing after the fallow period. Lyle Frees, State Agr in KS said that the 25% value we have selected meets what the FOs in that area expects. Dr. David Nelson, ARS in Akron, Co. said that the 25% number is still too low. To achieve the change from 8% to 24% the Fall rate for standing stalks (##/## days) was changed from 0.12 to 0.04 days/# days. This keeps the standing residue up longer. External forces such as herbicide inter action, wind, snow, and wildlife use could also cause stems to fall down. All winter wheat files were changed. MAS 6-9-11

Wheat, winter 14in row: Corrected several paramiters, looked like it was copied from a spring wheat without changing the factors to winter wheat. MAS 6-14-11

All Alfalfa Files: All alfalfa files were adjusted to grow and re-grow more correctly. The biomass adjustment factor has been set to 1.0 from the 0.6 that Fred had. The biomass conversion eff. factor was moved from 30 to 24 to match yield of the standard alfalfa run in Moses Lake, WA and now in Yuma, AZ. The record runs a little under the 6 ton/ac yield in ML, and somewhat over the 10 t/ac for Yuma. The seed weight was increased from 0.00007 to 0.0006 to increase the initial growth of the fall planting. There is about 1500 lbs of growth going into winter in WA and about 2400 lbs/ac at the first harvest in AZ. Yuma will need to lower the Biomass Adjustment factor to 0.8 to get the 12 t/ac yield needed.

NRCS Crop 9-29-11: (yet to be sent)

Radish, oilseed, cover crop - This file would not grow planted in MI on Aug 12th. This file was cloned from the Radish, oilseed file. Radish oilseed file was from the Mustard, yellow ARS file made 10-25-07. Fred Fox reworked the file to allow it to grow. The new file will some use data from the 2010 winter cover crop trials at the Lansing, MI Plant Material Center. Plant population seeded at 10 lb/ac was 235,000 plant/ac. Estimated yield is set to 3000 lb/ac from the data planted Aug 10 to frost Nov 10. Moisture moved from 9% to 0 based on using only DM for yield. Biomass Conv Eff was reset from 25 to 30. Corrected the land cover factor to 5.86E-4

Onion, bulb dry; Onion, growing after covercrop; Peanut, runner; Peas, field, dry; and Peas, forage - Corrected the land cover factor to 5.86E-4.

Barley, spring hay - In response to poor growth in Alamosa, Co., (with consultation with Fred Fox, ARS), Crop growth was annual spring crop and now is Perennial pasture (to get it to regrow after cutting), Min Temp was change from 39 to 35 degrees F; Maturity was changed from HU to 120 days; Fraction of leaf mass partition was changed from 0 to 0.1; and Fraction of stem mass partition was changed from 0 to 0.1. Crop now grows in the two cut example from CO. MAS 11-7-11

Oat, spring hay - In response to poor growth in Alamosa, Co., (with consultation with Fred Fox, ARS), Crop growth was annual spring crop and now is Perennial pasture (to get it to regrow after cutting), Min Temp was change from 39 to 35 degrees F; Maturity was changed from HU to 120 days; Fraction of leaf mass partition was changed from 0 to 0.1; and Fraction of stem mass partition was changed from 0 to 0.1. Crop now grows in the two cut example from CO. Thermal Delay was changed from 0.035 to 0. Last, reduction of leaf area for hot and cold were changed to Barley (0.005 to 0.001). MAS 11-7-11

Radish, daikon - Rechecked growth for HI. Set to days for maturity at 55, matures in days, and bio efficiency set to 40 to get closer to the yield. 12-29-11 MAS

Radish, oilseed - ReCloned from NRCS Canola, Spring. This file is for oilseed or seed production. It should be harvested with a standard combine. MAS 12-29-11

Grass seed, cool season - The record is now calibrated to produce about a 1000 lb/ac seed with irrigation on the south slopes of the Horse Heaven Hills in WA. We used a 4 year rotation and had about 700 lb/ac planted early Aug. 12-29-11 MAS

Gladiola, bulb - Cloned from Onion, dry record. Set plant populations from Publication #CIR552 from UF extention, (6 inches x 30 inch row sp) 54,000 plants/ac. Set moisture like Potato at 72%. The R2 file uses the same file for both fresh cut flowers and seed bulbs. This file is for the harvest of the bulbs only. If the flowers are cut early it may lower the bulb yield. MAS 3-5-12.