**Row Crop System Map Setup:**

**Tools Required:**

- Giants Editor

- Giants grleConverter

***Disclaimer: If you are not familiar with Windows file structure, how to open and edit text files, Giants Editor, or how to open/edit zip files, then I would highly recommend brushing up on computer/modding basics before attempting to prep a map for the Row Crop System.***

**Note: When unzipping a map to edit, move the zip file away from the unzipped folder before doing anything with Giants Editor. Leaving the zip folder in the same folder as your unzipped map will cause GE to use files out of the zip file instead of your unzipped folder. This can cause problems creating gdm/grle files and/or GE to crash when trying to open the map.**

**Step 1:**

* Using grleConverter, convert the map densityMap\_fruits.gdm to densityMap\_fruits.png.
* Using grleConverter, convert the map densityMap\_ground.gdm to densityMap\_ground.png.
* Once both png files are created, delete both densityMap\_fruits.gdm and densityMap\_ground.gdm.

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**Step 2:**

* Open densityMap\_fruits.png in an image editor like Paint.net, Gimp, or Photoshop.  
  Resize densityMap\_fruits.png to 16384 x 16384 pixels.
  + If you are using the **1X low resolution option**, resize instead to **8192 x 8192 pixels**.
  + If you have a resampling option, select **nearest neighbor** for this.
    - If you select a different resampling option, the resultant image will be blended which will mess up the crop placement on that map. You want the pixels to be resized only, not blended in any way.
  + Image mode should be **RGB 8 bits per channel**.
* Save (not save as or save copy) the resized png file.
* Repeat the above process for densityMap\_ground.png.

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**Step 3:**

* Open your map i3d with Notepad++
* Search for **.gdm**
* Change any fileId pointer ending with .gdm to .png
  + For example, change densityMap.fruits.gdm to densityMap\_fruits.png
* Repeat for any other filename ending in .gdm

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* Search for **.grle**
* Change any fileId pointer ending with .grle to .png
  + For example, change infoLayer\_limeLevel.grle to infoLayer\_limeLevel.png

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**Step 4:**

* Select the prefab folder for the type of map you are converting (1X, 1XLowRes, or 4X).
  + **1XMaps** is for 1X maps with **16384 x 16384 gdm/grle files**.
  + **1XMapsLowRes** is for 1X maps with **8192 x 8192 gdm/grle files** (more blocky, better performance).
  + **4XMaps** is for 4X maps with **16384 x 16384 gdm/grle files**.

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* Inside that folder, you will see a data folder. Copy its contents to your map’s data folder (or the location of your map’s gdm/grle files), overwriting all files.
* If your map has any grle file that **has the same name** as one of the png files copied over, delete those grle files.
  + For example, **if** your map’s data folder has an infoLayer\_limeLevel.png **and** an infoLayer\_limeLevel.grle, **delete infoLayer\_limeLevel.grle**.
* Repeat this for any other grle that also has a same named png file.

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**Step 5:**

* Look for a foliage folder inside of your map. If it does not have one, create one.
* Inside of prefab folder you have selected, you will find a foliage folder. Inside of that folder, select the crop folders you want to add to the Row Crop System. You can pick and choose; you do **not** need to copy them all.
* Copy these folders to your map’s foliage folder, overwriting all files.

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**Step 6:**

* Open your map’s map xml file, look for a <fruitTypes line.
* Fruit types can be set up one of two ways (or omitted). Your map may use either format.
  + If your fruitTypes line points to a filename, skip to **Step 7a.**
  + If your fruitTypes line does **not** point to a filename, skip to **Step 7b.**
  + If your fruitTypes line is missing or points to a $data location, skip to **Step 7c.**
  + Choose only **ONE** of the three steps above, do **NOT** do all three!

**Step 7a:**

* If your fruitTypes section points to a filename, open the xml file listed (i.e. maps\_fruitTypes.xml).
* Inside of that file, make sure all the RCS crops are listed. If any are not, make an entry for the missing fruitTypes.
  + Make sure the new entries are **above** any non-selectable crops in game. In other words, don’t put cotton.xml after something like meadowUS.xml.
* Skip to **Step 8**

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**Step 7b:**

* If your fruitTypes section does not point to a filename, look inside of that section for file pointers to the RCS crops you chose. Add entries for any missing fruit type. Be sure to list crops that are selectable in game **before** non-selectable crops. In other words, do not put something like maize.xml after meadowUS.xml.
* The format is <fruitType filename=”path/to/your/foliage/fruitName.xml”/>
* You can look at the other fruit types listed for examples.
* You can also look at the Riverbend RCS test map for examples.
* Skip to **Step 8**

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**Step 7c:**

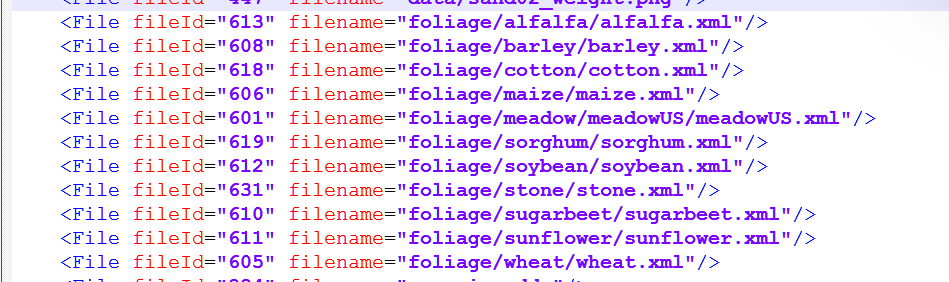
* If your fruitTypes section does not exist, or it points to a data location, you will have to add the fruit type xml pointers manually. You can do this right inside of your map xml.
* For each crop, add a <fruitType filename=”path/to/your/foliage/fruitName.xml”/> line.
* You can look at the Riverbend RCS test map for examples.
* Skip to **Step 8**

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**Step 8:**

* Re-open your map i3d in Notepad++
* Search for foliage/ This should take you to your i3d foliage file pointers.
* For all RCS crops you added, change the path from $data to the location of the file in your map.
* File pathing for i3d files start at the location of the i3d, not in the map root folder like xml files.
  + For example, if your foliage folder is in the same folder as your map i3d, you would use “foliage/maize/maize.xml” for the file path of corn.
  + If your foliage folder is one level higher than the map i3d, you would use ../foliage/maize/maize.xml” for the path of corn.
* Repeat this process for each RCS enabled foliage.
* Save your map i3d when finished and continue to **step 9**.



**Step 9:**

* Open your map xml file and search for the **<fieldGround** line.
* Take note of the filename pointer.
  + If the filename starts with $data, **continue this step.**
  + If the filename does **not** start with $data, skip to **Step 10.**
* Change the filename to your map’s config location (i.e. maps/mapUS/config/maps\_fieldGround.xml or wherever it is in your map).



* Go to your game install location data/maps/ folder.
* Locate the maps\_fieldGround.xml and copy that to the config folder of your map.
* If your map does not have a config folder, create one in the same folder as your map i3d file.

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* Go back to your game install location data/maps/mapUS/config/ folder.
* Look for fieldGround.xml and open that file.

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* Copy the following section to your map’s maps\_fieldGround.xml file.
* Change the file pointers for <sprayLevel, <limeLevel, <plowLevel, etc to the location of these files in your map.

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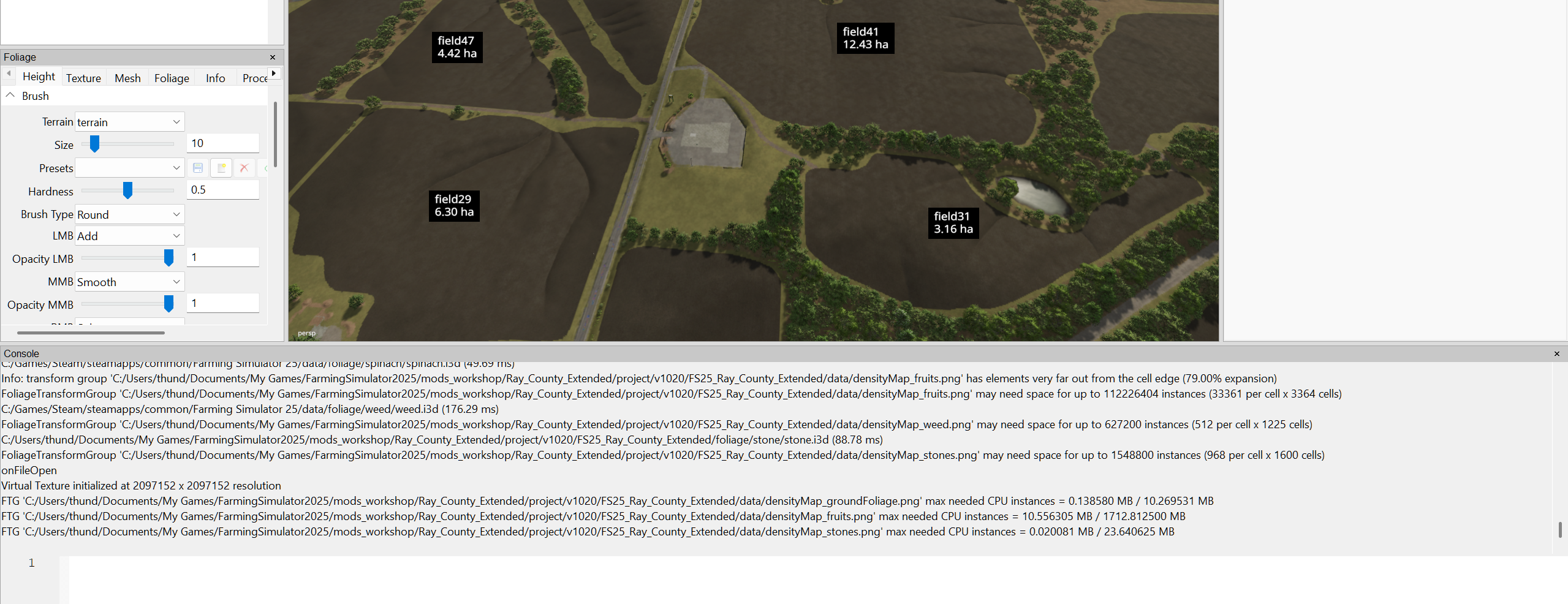
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A screenshot of a computer

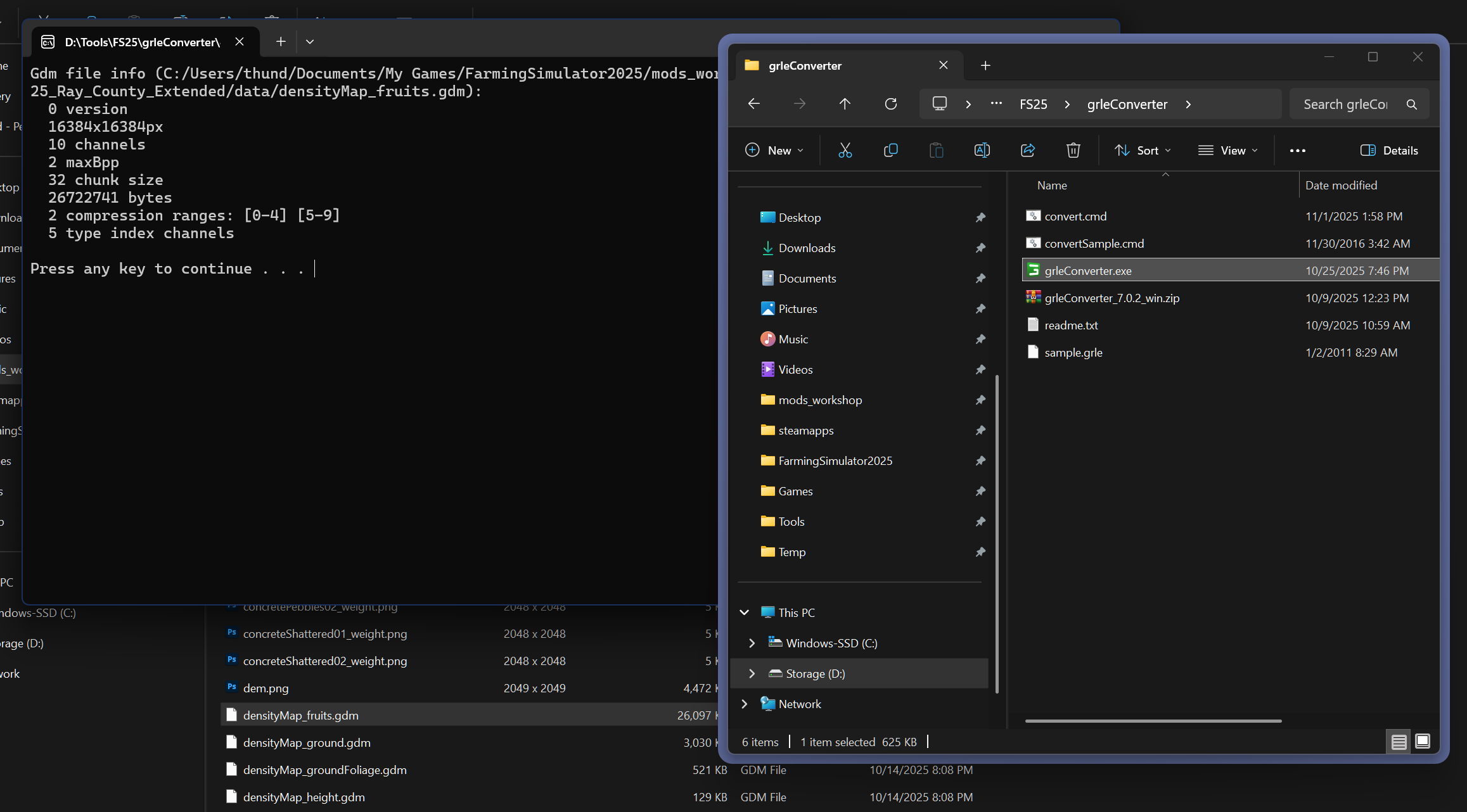
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**Step 10:**

* Open the map in Giants editor (10.0.0.10 at the time of this writing).
* Check the bottom grey console area for errors (red text, don’t worry so much about orange).



* If there are no errors relating to the crops or ground, save the map to create new gdm files.
  + This should re-create densityMap\_fruits.gdm.
  + This should re-create densityMap\_ground.gdm.
* **If there are errors, do not save!** Close GE and contact the map author or myself for advice.
* Verify that the new gdm files are created and use grleConverter to check the sizes



From here you should be able to zip up your map, place it in your mods folder and give it a try. **Until you can verify that your install was successful, you only run the map and RCS mod (and optionally EasyDev). Also, keep an eye on your game log for any issues.** If everything looks ok in-game, you can go ahead and start a normal game with your normally installed mods.