

CarboLime

Integration into your Farming Simulator 25 Mod Map

Prefab Guide | Version 1.0

Preface

This prefab enables the complete integration of CarboLime as a dedicated FillType in any Farming Simulator 25 mod map. Compared to the vanilla map approach, your own mod map benefits from:

- Custom ground texture after spreading (via DensityMap value 7)
- Custom fill plane texture in the spreader tank
- Correct spreading effect with custom particle color
- Realistic spread width 12m / 18m
- Custom pricing (cheaper than lime as an industrial by-product)

Note

This guide assumes you already have your own FS25 mod map and are familiar with the Giants Editor. All paths refer to the root folder of your map, e.g.: **FS25_MyMap/maps/**

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carboLime.lua may be published and distributed in its **unmodified form FREE**.

However, any modified or derivative version may only be published with **explicit written consent** of the author.

Configuration of the script is done **exclusively via the XML files** in the **maps/scripts/** folder – the Lua file itself must not be modified.

For questions, collaborations or permission requests: github.com/Lahmi/FS25_Carbolime_Mod

1. Required Files and Folder Structure

Copy the following files from the prefab package into your map:

```
maps/
+-- config/
|   +-- fillTypes.xml                <- CARBOLIME FillType entry
|   +-- sprayTypes.xml              <- CARBOLIME SprayType entry
|   `-- densityMapHeightTypes.xml   <- FillPlane texture registration
+-- effects/
|   +-- fertilizerEffects.xml        <- Spreading effect definition
|   `-- fertilizer/
|       +-- fertilizer.i3d           <- Effect mesh (with CARBOLIME slot)
|       +-- fertilizer.i3d.shapes    <- Effect geometry
|       `-- fillTypes/carbolime/
|           `-- carbolime8x4_diffuse.dds <- Particle texture
+-- fillPlanes/carboLime/
|   +-- carboLime_diffuse.png
|   +-- carboLime_normal.png
|   +-- carboLime_height.png
|   +-- carboLime_displacement.png
|   `-- distance/carboLimeDistance_diffuse.png
+-- textures/terrain/ground/
|   +-- spray_carbolime_diffuse.dds   <- Ground texture after spreading
|   +-- spray_carbolime_normal.dds
|   +-- spray_carbolime_height.dds
|   +-- spray_carbolime_displacement.dds
|   `-- distance/carbolime_distance_diffuse.dds
+-- textures/huds/fillTypes/
|   `-- hud_fill_carboLime.png        <- HUD icon
+-- scripts/
|   +-- CarboLime.lua                 <- All script files go here!
|   +-- carboLimeVehicles.xml         <- Lua script (DO NOT modify!)
|   +-- carboLimeConsumption.xml     <- Configure allowed spreaders
|   `-- carboLimeConsumption.xml     <- Configure consumption values
`-- vehicles/bredal/k105/
    `-- k105.xml                     <- Bredal K105 with CARBOLIME SprayTypes
```

2. Modifying mapEU.i3d

The mapEU.i3d must be extended with the CARBOLIME spray OverlayLayer. Open the file in Giants Editor or as text and add the following entries:

2.1 File Entries (in the <Files> block)

Find the last file entry for lime textures and add after it:

```
<File fileId="XXXX" filename="textures/terrain/ground/spray_carbolime_diffuse.dds"/>
<File fileId="XXXX" filename="textures/terrain/ground/spray_carbolime_normal.dds"/>
<File fileId="XXXX" filename="textures/terrain/ground/spray_carbolime_height.dds"/>
<File fileId="XXXX" filename="textures/terrain/ground/spray_carbolime_displacement.dds"/>
<File fileId="XXXX" filename="textures/terrain/ground/distance/carbolime_distance_diffuse.dds"/>
```

Important: fileId

Replace **XXXX** with the next available fileId numbers in your i3d. Find the highest existing fileId and count up from there.

Example: Highest ID = 951 → new IDs = 952, 953, 954, 955, 956

2.2 OverlayLayer (after the last spray OverlayLayer)

```
<OverlayLayer type="spray" name="carboLime"
  detailMapId="XXXX" normalMapId="XXXX" heightMapId="XXXX" displacementMapId="XXXX"
  unitSize="2.5" displacementMaxHeight="0.25" blendContrast="0.2"
  noiseScale="0.5" porosityAtZeroRoughness="0.9" porosityAtFullRoughness="1"
  firmness="0.79" viscosity="0.71" firmnessWet="0.79"/>
```

2.3 CombinedOverlayLayer (after the lime entry)

```
<CombinedOverlayLayer name="carboLime" type="spray" layers="carboLime"/>
```

2.4 Option in the Spraytype Group (value 7)

Find the group **name="Spraytype"** (firstChannel="10") and add after value 6:

```
<Option value="7" name="CarboLime"/>
```

2.5 DistanceTexture

Find the last DistanceTexture entry for spray types and add after it:

```
<DistanceTexture match="*;7" fileId="XXXX"/>
```

3. XML Configuration Files

3.1 maps/config/fieldGround.xml

Add CARBOLIME as value 7 in the <sprayTypes> section:

```
<sprayTypes useDefaultTerrainDetail="true" firstChannel="10" numChannels="5">
  <fertilizer value="1" tireTrackColor="0.123 0.074 0.044 1"/>
  <manure value="2" tireTrackColor="0.123 0.074 0.044 1"/>
  <liquidManure value="3" tireTrackColor="0.123 0.074 0.044 1"/>
  <lime value="4" tireTrackColor="0.123 0.074 0.044 1"/>
  <straw value="5" tireTrackColor="0.123 0.074 0.044 1"/>
  <maize value="6" tireTrackColor="0.123 0.074 0.044 1"/>
  <carboline value="7" tireTrackColor="0.123 0.074 0.044 1"/> <!-- NEW -->
</sprayTypes>
```

3.2 maps/config/sprayTypes.xml

Register CARBOLIME as SprayType with sprayGroundType="LIME":

```
<sprayType name="CARBOLIME"
  litersPerSecond="0.1500"
  type="LIME"
  sprayGroundType="CARBOLIME" />
```

Important: sprayGroundType

Must be "**CARBOLIME**" – otherwise the integration will not work correctly.

FieldSprayType only knows: FERTILIZER, LIME, MANURE, LIQUID_MANURE.

Using **type="LIME"** correctly removes the lime requirement.

3.3 maps/config/densityMapHeightTypes.xml

Create a new file (or extend existing one). Add CARBOLIME so the FillPlane texture works correctly:

```
<?xml version="1.0" encoding="utf-8" standalone="no" ?>
<map>
  <densityMapHeightTypes firstChannel="0" numChannels="8">
    <!-- Your other densityMapHeightTypes here ... -->
    <densityMapHeightType fillTypeName="CARBOLIME"
      maxSurfaceAngle="40"
      fillToGroundScale="1.0"
      allowsSmoothing="false">
      <collision scale="1.0" baseOffset="0.05" minOffset="0.0" maxOffset="0.05"/>
    </densityMapHeightType>
  </densityMapHeightTypes>
</map>
```

3.4 maps/config/fillTypes.xml

CARBOLIME FillType with all texture paths and pricing:

```

<fillType name="CARBOLIME" title="CarboLime" category="LIME"
  showOnPriceTable="true" isBulkType="true"
  unitShort="$l10n_unit_literShort">
  <physics massPerLiter="1.20" maxPhysicalSurfaceAngle="15"/>
  <economy pricePerLiter="0.1350"/>
  <image hud="maps/textures/huds/fillTypes/hud_fill_carboLime.png"/>
  <textures
    diffuse="maps/fillPlanes/carboLime/carboLime_diffuse.png"
    normal="maps/fillPlanes/carboLime/carboLime_normal.png"
    height="maps/fillPlanes/carboLime/carboLime_height.png"
    displacement="maps/fillPlanes/carboLime/carboLime_displacement.png"
    distance="maps/fillPlanes/carboLime/distance/carboLimeDistance_diffuse.png"
    unitSize="1" blendContrast="0.2" noiseScale="0.5"
    porosityAtZeroRoughness="0.9" porosityAtFullRoughness="1"
    firmness="0.3" viscosity="0.5"/>
  <effects prioritizedEffectType="ShaderPlaneEffect">
    <alphaClip value="0.3"/>
  </effects>
</fillType>

```

4. Modifying mapEU.xml

Three references must be set in mapEU.xml:

```
<!-- Load FillTypes and SprayTypes from map config -->
<fillTypes filename="maps/config/fillTypes.xml"/>
<sprayTypes filename="maps/config/sprayTypes.xml"/>
<!-- Effects for lime spreader (incl. CARBOLIME) -->
<motionPathEffects filename="maps/effects/fertilizerEffects.xml"/>
<!-- densityMapHeightTypes for FillPlane texture -->
<densityMapHeightTypes filename="maps/config/densityMapHeightTypes.xml">
</densityMapHeightTypes>
```

5. Including the Lua Script

5.1 Register script in modDesc.xml

```
<extraSourceFiles>
  <sourceFile filename="maps/scripts/CarboLime.lua"/>
</extraSourceFiles>
```

5.2 Configure allowed spreaders – via XML

Spreader configuration is done **exclusively** via **maps/scripts/carboLimeVehicles.xml**. The Lua file must not be modified.

```
<?xml version="1.0" encoding="utf-8"?>
<vehicles>
  <!-- Bredal K105 (map mod, 12m / 18m) -->
  <vehicle path="maps/vehicles/bredal/k105/k105.xml"/>
  <!-- Add further spreaders here: -->
  <!-- <vehicle path="maps/vehicles/mySpreader/mySpreader.xml"/> -->
</vehicles>
```

How does path matching work?

The entered string must be a substring of the full file path (lowercase).

"maps/vehicles/bredal/k105/k105.xml" → map Bredal only

"data/vehicles/bredal/k105" → vanilla Bredal only

"k105" → all k105 from all mods

5.3 Configure consumption values – via XML

Consumption values are controlled via **maps/scripts/carboLimeConsumption.xml**. Again: do not touch the Lua file.

```
<?xml version="1.0" encoding="utf-8"?>
<carboLimeConsumption>
  <!-- Extra consumption vs. standard lime (default: 5.14 = 50% more) -->
  <extraFactor>5.14</extraFactor>
  <!-- Density in t/m3 (default: 3.428571) -->
  <densityFactor>3.428571</densityFactor>
</carboLimeConsumption>
```

6. Including the Vehicle (Bredal K105)

The included Bredal K105 has native CARBOLIME support. It must be registered as a StoreItem.

6.1 Place the file

```
maps/vehicles/bredal/k105/k105.xml
```

6.2 Register in storeItems.xml

```
<storeItem xmlFilename="maps/vehicles/bredal/k105/k105.xml" />
```

Note on the vehicle

The map Bredal uses the vanilla k105.i3d from the game data directory (\$data). No 3D model files need to be copied. Only the k105.xml with the CARBOLIME entries needs to go into the map.

7. Realistic Pricing

CarboLime is a by-product of sugar production and in reality significantly cheaper than standard lime (market prices 2024):

Parameter	Lime (Vanilla)	CarboLime
pricePerLiter	0.2250	0.1350
BigBag 2000L	\$ 450	\$ 270
massPerLiter	0.85 kg/L	1.20 kg/L
litersPerSecond	0.0700	0.1500
Real price	approx. \$47/t	approx. \$15-25/t

8. Objects: BigBags and Pallets

BigBags and pallets are required to purchase CarboLime in the shop. Each object consists of multiple files that all need to be copied into the map.

8.1 Required Files

```
maps/objects/  
+-- bigBagPallet/  
|   +-- bigBagPallet_carboLime.xml           <- Pallet (single purchase)  
|   +-- bigBagPallet_carboLime.i3d  
|   +-- bigBagPallet_carboLime.i3d.shapes  
|   +-- carboLime_base.xml  
|   +-- multiPurchaseBigBagPallet_carboLime.xml <- Multi-purchase  
|   `-- textures/  
|       +-- bigBagPalletcarboLime_diffuse.dds  
|       `-- store_bigBagPallet_carboLime.dds  
+-- bigBag/  
|   +-- bigBag_carboLime.xml                 <- BigBag (single purchase)  
|   +-- bigBag_carboLime.i3d  
|   +-- bigBag_carboLime.i3d.shapes  
|   +-- carboLime_base.xml  
|   +-- multiPurchaseBigBag_carboLime.xml     <- Multi-purchase  
|   `-- textures/  
|       +-- bigBagCarboLime_diffuse.dds  
|       `-- store_bigBag_carboLime.dds
```

8.2 Register in storeItems.xml

```
<!-- CarboLime BigBag Pallet -->  
<storeItem xmlFilename="maps/objects/bigBagPallet/bigBagPallet_carboLime.xml"/>  
<storeItem xmlFilename="maps/objects/bigBagPallet/multiPurchaseBigBagPallet_carboLime.xml"/>  
<!-- CarboLime BigBag -->  
<storeItem xmlFilename="maps/objects/bigBag/bigBag_carboLime.xml"/>  
<storeItem xmlFilename="maps/objects/bigBag/multiPurchaseBigBag_carboLime.xml"/>
```

8.3 Adjust Prices

```
<!-- bigBagPallet_carboLime.xml and bigBag_carboLime.xml: -->  
<set path="vehicle.storeData.price" value="270"/>  
<!-- multiPurchase files: -->  
<price>270</price>  
<multipleItemPurchaseAmountConfiguration name="1" price="0"/>  
<multipleItemPurchaseAmountConfiguration name="2" price="270"/>  
<multipleItemPurchaseAmountConfiguration name="3" price="540"/>  
<multipleItemPurchaseAmountConfiguration name="4" price="810"/>  
<multipleItemPurchaseAmountConfiguration name="5" price="1080"/>  
<multipleItemPurchaseAmountConfiguration name="6" price="1350"/>  
<multipleItemPurchaseAmountConfiguration name="7" price="1620"/>  
<multipleItemPurchaseAmountConfiguration name="8" price="1890"/>
```

8.4 Check paths in XML files

```
<!-- In bigBagPallet_carboLime.xml: -->  
<set path="vehicle.storeData.image"  
    value="objects/bigBagPallet/textures/store_bigBagPallet_carboLime.dds"/>  
<!-- In multiPurchaseBigBagPallet_carboLime.xml: -->  
<image>objects/bigBagPallet/textures/store_bigBagPallet_carboLime.dds</image>  
<filename>objects/bigBagPallet/bigBagPallet_carboLime.xml</filename>
```


Important: Relative paths

All paths in the object XMLs are relative to the **maps/** folder of the map.

Example: maps/objects/bigBagPallet/bigBagPallet_carboLime.xml

→ in the XML it reads: objects/bigBagPallet/bigBagPallet_carboLime.xml

9. Localization (l10n) – Language Entries

Shop texts for CarboLime, BigBag and Pallet are loaded from l10n files. Without these files only placeholder codes like `$l10n_fillType_CARBOLIME` appear in the shop.

9.1 Create files

```
maps/l10n/l10n_de.xml  <- German
maps/l10n/l10n_en.xml  <- English
```

9.2 Content of l10n_de.xml

```
<?xml version="1.0" encoding="utf-8" standalone="no"?>
<l10n><texts>
  <text name="fillType_CARBOLIME"      text="Carbokalk" />
  <text name="shopItem_carbokalkPallet" text="Carbokalk Palette (2000 L)" />
  <text name="shopItem_carbokalkBag"    text="Carbokalk BigBag (2000 L)" />
  <text name="function_bigBagCarboLime" text="Kalkstreuer mit Carbokalk befüllen" />
</texts></l10n>
```

9.3 Content of l10n_en.xml

```
<?xml version="1.0" encoding="utf-8" standalone="no"?>
<l10n><texts>
  <text name="fillType_CARBOLIME"      text="CarboLime" />
  <text name="shopItem_carbokalkPallet" text="CarboLime Pallet (2000 L)" />
  <text name="shopItem_carbokalkBag"    text="CarboLime BigBag (2000 L)" />
  <text name="function_bigBagCarboLime" text="Fill lime spreader with CarboLime" />
</texts></l10n>
```

9.4 Reference in map modDesc.xml

```
<l10n filenamePrefix="maps/l10n/l10n" />
```

10. Common Errors and Solutions

Error / Symptom	Cause	Solution
fertilizer.i3d not found	File missing in map	Copy fertilizer.i3d + .shapes to maps/effects/fertilizer/
FillPlane shows wrong texture	densityMapHeightTypes.xml missing or not referenced	mapEU.xml: check filename attribute in densityMapHeightTypes
Spread width too wide	Vanilla Bredal instead of map Bredal	Sell old Bredal, buy map Bredal from shop
CARBOLIME not loadable	fillTypes.xml not referenced in mapEU.xml	Add fillTypes filename=... to mapEU.xml
Lime requirement not removed	sprayGroundType="CARBOLIME" instead of "LIME"	Change to "LIME" in sprayTypes.xml
HUD icon missing	PNG file not present	Copy hud_fill_carboLime.png to maps/textures/huds/fillTypes/
Ground texture invisible	CarboLime.lua not loaded	Check extraSourceFiles in modDesc.xml
l10n keys missing in shop	l10n files missing or not referenced	Create maps/l10n/l10n_de.xml and set filenamePrefix in modDesc.xml
Spreader config ignored	Lua file was modified directly	Only edit carboLimeVehicles.xml in the scripts folder – do not modify the Lua

11. Step-by-Step Checklist

- ✓ mapEU.i3d: Add OverlayLayer, CombinedOverlayLayer, Option value=7, DistanceTexture
- ✓ maps/config/fieldGround.xml: Add <carboline value="7"/> to sprayTypes
- ✓ maps/config/sprayTypes.xml: Add CARBOLIME SprayType with sprayGroundType="LIME"
- ✓ maps/config/densityMapHeightTypes.xml: Register CARBOLIME as densityMapHeightType
- ✓ maps/config/fillTypes.xml: Add CARBOLIME FillType with textures and pricing
- ✓ mapEU.xml: Reference fillTypes, sprayTypes, motionPathEffects, densityMapHeightTypes
- ✓ maps/effects/: Copy fertilizerEffects.xml, fertilizer.i3d, .shapes
- ✓ Copy all texture files to their respective folders
- ✓ Create maps/l10n/l10n_de.xml and l10n_en.xml, set filenamePrefix in modDesc.xml
- ✓ Add maps/scripts/CarboLime.lua and register in modDesc.xml as extraSourceFile
- ✓ maps/scripts/carboLimeVehicles.xml – configure allowed spreaders (XML, not Lua!)
- ✓ maps/scripts/carboLimeConsumption.xml – check/adjust consumption values (XML, not Lua!)
- ✓ Copy maps/vehicles/bredal/k105/k105.xml and register in storeItems.xml
- ✓ Copy all BigBag/Pallet files to maps/objects/ and register in storeItems.xml
- ✓ Adjust prices in BigBag/Pallet XMLs from 450 to 270
- ✓ Launch game, buy CarboLime in shop, load and test

Result after successful integration

- ✓ CarboLime as a dedicated FillType with custom HUD icon
- ✓ Bredal K105 natively loads CarboLime (12m / 18m spread width)
- ✓ Custom spreading effect (beige/earthy instead of white)
- ✓ Custom fill plane texture in the spreader tank
- ✓ Custom ground texture after spreading
- ✓ Lime requirement correctly removed
- ✓ Realistic pricing: ~\$270 / 2000L BigBag (40% cheaper than lime)
- ✓ Configuration fully via XML files – Lua remains untouched

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