

Softer Plant Cards in Blender

Plant cards tend to look flat and angular. Not at all what you expect from the soft, organic feel in nature. I'll show you a quick technique you can set up in Blender (and export to your preferred game engine). This written tutorial is meant to act as a simple guide you can reference in the future.



Before on the left. After on the right.

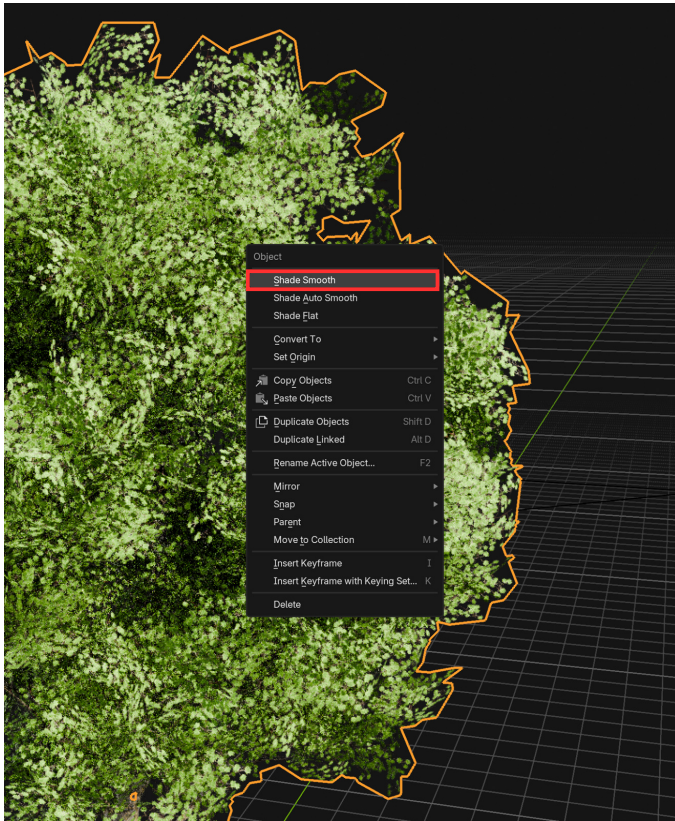
Teaching Blender?

You're welcome to use this PDF in your classroom and share it with your students. I'd love to hear how you use it! [Get in touch at rileyb3d.com/contact](https://rileyb3d.com/contact).

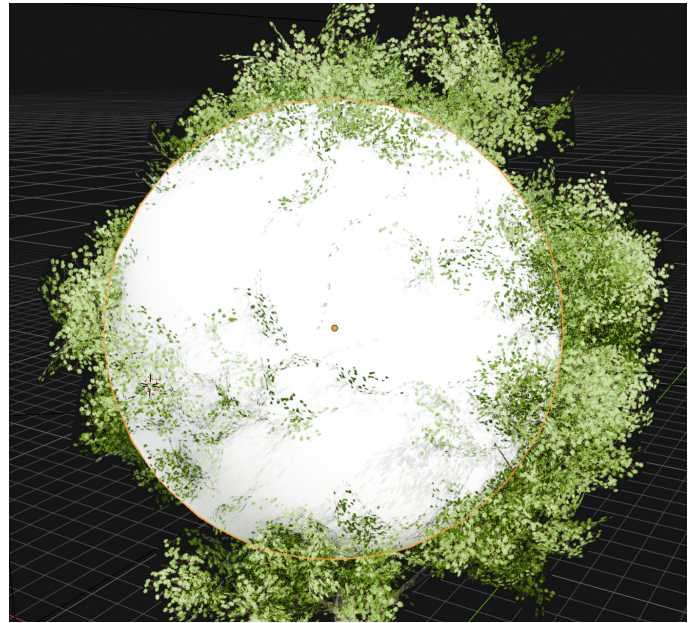
This handout contains the full written lesson. The interactive comparison and supporter quiz are available in the [online course](#). Click any image in this PDF to open a larger version online.

1. Set up the helper

1. Select your foliage-card object and use **Shade Smooth**.
2. Add a **UV Sphere** and position it inside the foliage.
3. Scale it to roughly match the plant's overall shape.



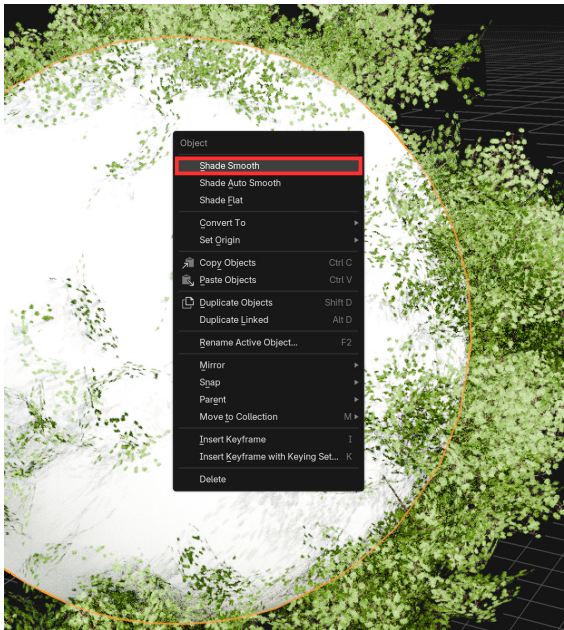
Shade Smooth on the foliage



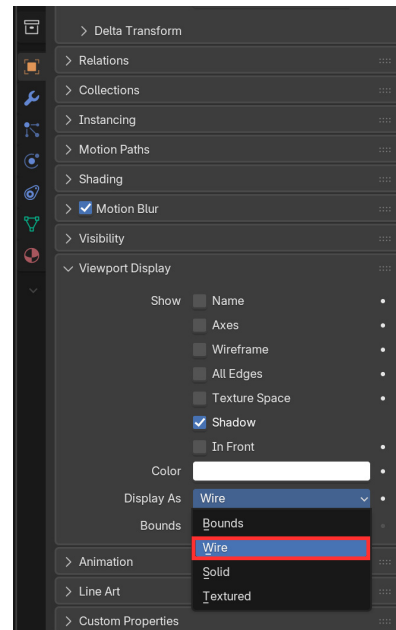
Position and scale the sphere inside the foliage

Set up the helper (continued)

4. Use **Shade Smooth** on the sphere.
5. Set its viewport display to **Wire** and disable its render visibility.



Shade Smooth on the helper sphere

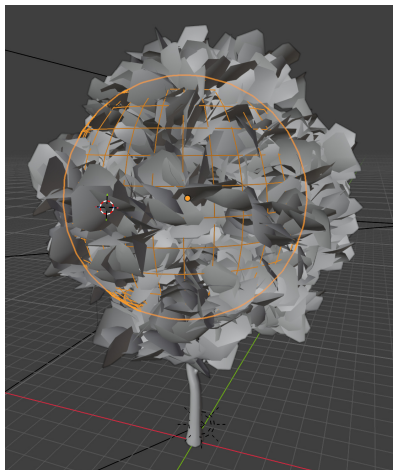


Object Properties → Viewport Display → Display As → Wire



Disable the sphere's render visibility with its camera icon.

This sphere will provide the normal shading direction for the cards.



The helper in Wire display, inside the foliage.

2. Transfer the normals

Select the **foliage-card object** and add a **Data Transfer** modifier. Use these settings:

Source

Your helper sphere

Face Corner Data

Enabled

Data type

Custom Normals

Mapping

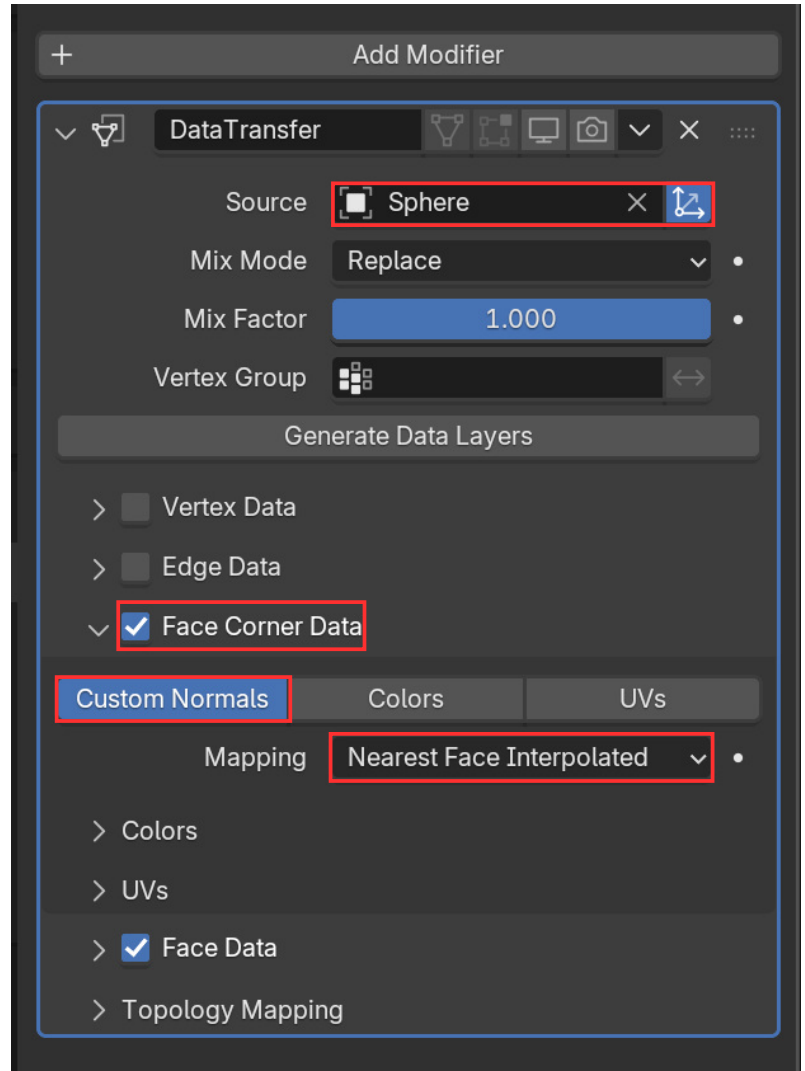
Nearest Face Interpolated

Mix Mode

Replace

Mix Factor

1.000



Transfer Custom Normals from the sphere using Nearest Face Interpolated

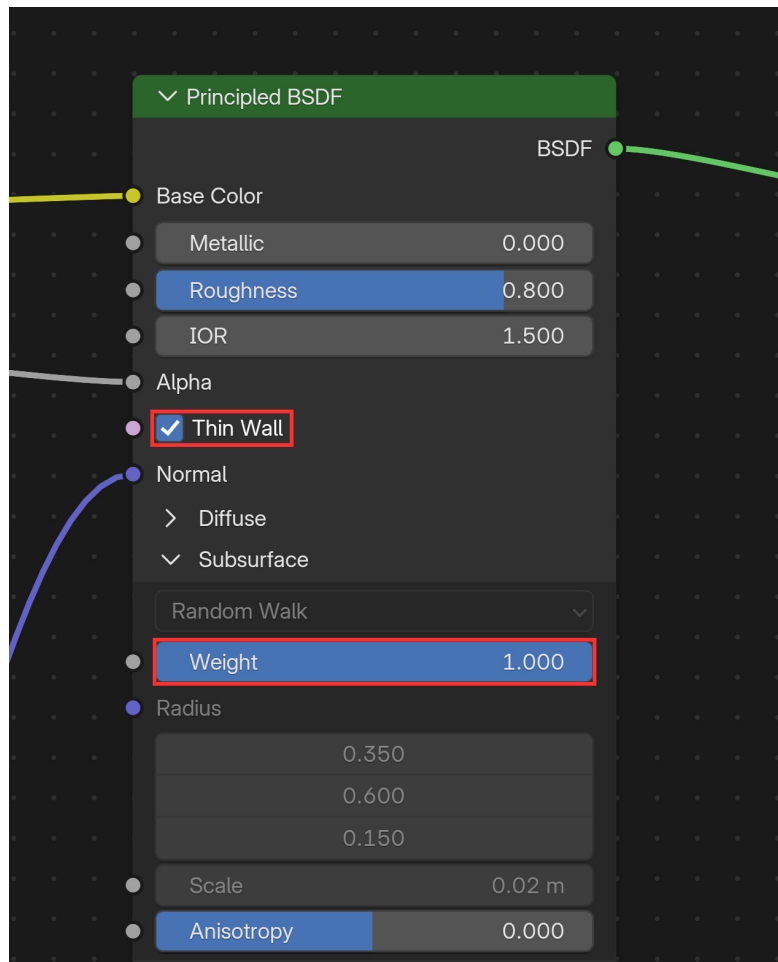
This transfers smooth shading directions from the sphere to the cards. The two meshes do not need matching topology.

The separate Face Data checkbox is also enabled in the screenshot. You only need the highlighted Face Corner Data settings to transfer Custom Normals.

3. Refine and finish

View the plant under angled lighting and toggle the modifier to compare before and after.

If you're using the latest Blender (I'm using 5.2 in this tutorial), you can also enable "Thin Wall" subsurface effect, which gives the leaves that paper-thin look that allows the sun to partially pass through. Just check "Thin Wall" in the Principled BSDF shader, and crank Subsurface weight up to 1.



Principled BSDF: Thin Wall enabled and Subsurface Weight set to 1.000

Too rounded? Reshape the helper or lower the Mix Factor.

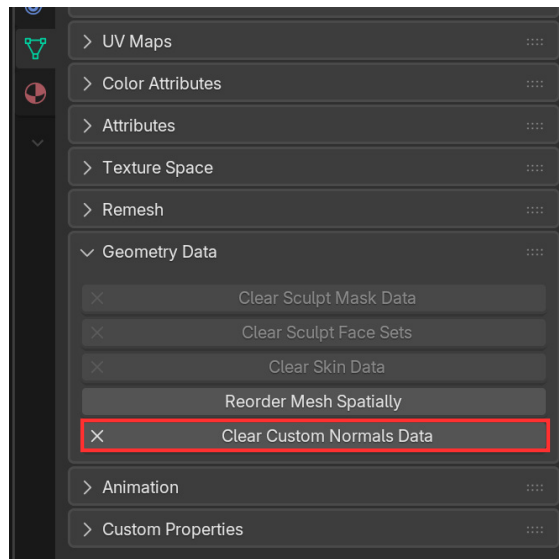
Patchy shading? Check that the helper is smooth shaded and closely fits the foliage.

Want several distinct foliage clumps? Use separate helpers and transfers for those clusters.

Finish and keep the result

Once you're happy, **apply the modifier in Object Mode**. You can then remove the helper from the finished asset.

If you ever want to remove this custom shading in the future, just select the foliage > go to Data properties > Geometry Data > click "Clear Custom Normals Data."

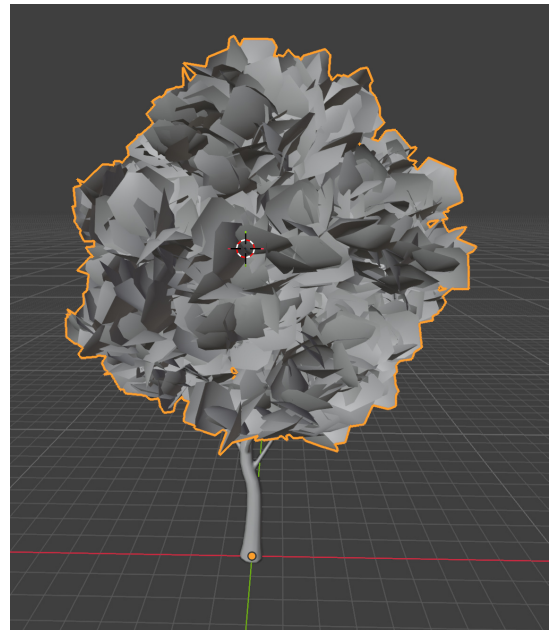


Remove stored custom normals in Data Properties → Geometry Data

You can clearly see how much softer the leaves look in both the final render, and even in solid view in the 3D viewport.



Before: original shading in Solid view.



After: transferred normals in Solid view.

Compare the rendered result

Before: original foliage shading. After: softer foliage shading.



Before: No normal transfer



After: Transferred normals

This little trick is used all the time in games and animation!

When exporting, preserve the custom normals and make sure the destination application imports them instead of recalculating them.

[Open the online course to use the before-and-after slider.](#)

Check out the next chapter if you're a site supporter and want to get graded on a test to see how much info you retained.