RECIPES BIODEGRADABLE MATERIALS

Material Recipes Book Textiles University of Applied Sciences Amsterdam Amsterdam Fashion Institute

Course: Internship + Graduation

Student: Laura Weller Studentnumber: 500844365 Study Year: 2023 - 2024





- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the annato pigment and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 2 gr annato (grinded seeds)
- 5 gr wool





- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the madder pigment and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 5 gr madder pigment (grinded roots)
- 5 gr wool



RED/ORANGE

How to make

- 1. Wash and card the raw wool
- 2. Create a natural dye bath with water and madder
- 3. Let the bath simmer for 3 hours and let cool off overnight
- 4. After 1 day, pour the dye bath through a filter to filter out the madder. The madder you can dry and grind to use in the previous recipe.
- 5. Check to make sure you still have 500 ml of water (if you have less, top it up to 500 ml, if you have more, don't worry it will evaporate in the end)
- 6. Mix dyebath with glycerine
- 7. While whisking, add the sodium alginate
- 8. Cover up and let rest in fridge overnight
- 9. When rested, pour the liquid in the mold
- 10. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 11. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 12. Let dry for 14 days wintertime, 8 days summertime

- 600 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 10 gr madder
- 5 gr wool

ORANGE



How to make

- 1. Wash and card the raw wool
- 2. Create a natural dye bath with water and edamame peels
- 3. Let the bath simmer for 3 hours and let cool off overnight
- 4. After 1 day, pour the dye bath through a filter to filter out the edamame peels. The madder you can dry and grind to use in the previous recipe.
- 5. Check to make sure you still have 500 ml of water (if you have less, top it up to 500 ml, if you have more, don't worry it will evaporate in the end)
- 6. Mix dyebath with glycerine
- 7. While whisking, add the sodium alginate
- 8. Cover up and let rest in fridge overnight
- 9. When rested, pour the liquid in the mold
- 10. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 11. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 12. Let dry for 14 days wintertime, 8 days summertime
- 13. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore.

- 600 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 100 gr edamame peels
- 5 gr wool

ORANGE



How to make

- 1. Wash and card the raw wool
- 2. Create a natural dye bath with water and blueberries
- 3. Let the bath simmer for 3 hours and let cool off overnight
- 4. After 1 day, pour the dye bath through a filter to filter out the blueberries.
- 5. Check to make sure you still have 500 ml of water (if you have less, top it up to 500 ml, if you have more, don't worry it will evaporate in the end)
- 6. Mix dyebath with glycerine
- 7. While whisking, add the sodium alginate
- 8. Cover up and let rest in fridge overnight
- 9. When rested, pour the liquid in the mold
- 10. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 11. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 12. Let dry for 14 days wintertime, 8 days summertime
- 13. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore.

- 600 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 5 gr dried blueberries
- 5 gr wool

ORANGE



How to make

- 1. Wash and card the raw wool
- 2. Create a natural dye bath with water and blueberries
- 3. Let the bath simmer for 3 hours and let cool off overnight
- 4. After 1 day, pour the dye bath through a filter to filter out the blueberries.
- 5. Check to make sure you still have 500 ml of water (if you have less, top it up to 500 ml, if you have more, don't worry it will evaporate in the end)
- 6. Mix dyebath with glycerine
- 7. While whisking, add the sodium alginate
- 8. Cover up and let rest in fridge overnight
- 9. When rested, add the annatto and mix untill one smooth color
- 10. Pour the liquid in the mold
- 11. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 12. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 13. Let dry for 14 days wintertime, 8 days summertime
- 14. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore.

- 600 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 0,5 gr annatto
- 2,5 gr dried blueberries
- 5 gr wool



How to make

- 1. Wash and card the raw wool
- 2. Create a natural dye bath with water and carrot leafs
- 3. Let the bath simmer for 3 hours and let cool off overnight
- 4. After 1 day, pour the dye bath through a filter to filter out the carrot leafs.
- 5. Check to make sure you still have 500 ml of water (if you have less, top it up to 500 ml, if you have more, don't worry it will evaporate in the end)
- 6. Mix dyebath with glycerine
- 7. While whisking, add the sodium alginate
- 8. Cover up and let rest in fridge overnight
- 9. When rested, pour the liquid in the mold
- 10. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 11. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 12. Let dry for 14 days wintertime, 8 days summertime
- 13. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore.

- 600 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 15 gr carrot leafs
- 5 gr wool



How to make

- 1. Wash and card the raw wool
- 2. Dry the orange peel in the oven on 40 degrees celcius overnight or untill they are hard and dry
- 3. Grind the orange peels
- 4. Siff the orange peels to get out the big chunks
- 5. Mix water with glycerine
- 7. While whisking, add the sodium alginate
- 8. Cover up and let rest in fridge overnight
- 9. When rested, add the orange peel. but add this

through a siff with little steps to prevent the orange peel from making big clumps in the liquid.

- 10. Pour the liquid in the mold
- 11. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 12. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 13. Let dry for 14 days wintertime, 8 days summertime
- 14. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore.

- 600 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 12,5 gr orange peel
- 5 gr wool



How to make

- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the kurkuma pigment and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days winter time, 8 days summertime

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 0,5 gr kurkuma powder
- 5 gr wool



How to make

- 1. Grind the paper till pulp. The better you grind the paper, the smoother the material becomes in the end. I used beige/grey paper.
- 2. Mix water and glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, pour the liquid in a blender
- 6. Add the kurkuma and the paper in the blender
- 7. Blend for 5 minutes untill one smooth mass
- 8. Pour the liquid in the mold
- 9. Let dry for 14 days wintertime, 8 days summertime

- 500 ml water
- 10 gr glycerine
- 6 gr sodium alginate
- 0,5 gr kurkuma powder
- 25 gr paper from eggboxes (can be colored)



How to make

- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the spirulina pigment and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 2 gr spirulina
- 5 gr wool



How to make

- 1. Grind the paper till pulp. The better you grind the paper, the smoother the material becomes in the end. I used green paper.
- 2. Mix water and glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, pour the liquid in a blender
- 6. Add the kurkuma and the paper in the blender
- 7. Blend for 5 minutes untill one smooth mass
- 8. Pour the liquid in the mold
- 8. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 9. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 10. Let dry for 14 days wintertime, 8 days summertime

- 700 ml water
- 10 gr glycerine
- 6 gr sodium alginate
- 5 gr wool
- 25 gr paper from eggboxes (can be colored)



How to make

- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the butterfly pigment and sodium carbonate and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime
- 10. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 2,5 gr butterfly tea
- 0,5 gr sodium carbonate
- 5 gr wool



How to make

- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the butterfly pigment and sodium carbonate and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime
- 10. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 1,25 gr butterfly tea
- 0,25 gr sodium carbonate
- 5 gr wool





- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the butterfly pigment and sodium carbonate and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime
- 10. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 0,675 gr butterfly tea
- 0,125 gr sodium carbonate
- 5 gr wool



How to make

- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the butterfly pigment and sodium carbonate and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime
- 10. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 0,3375 gr butterfly tea
- 0,065 gr sodium carbonate
- 5 gr wool

BLUE



How to make

- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the butterfly pigment and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime
- 10. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 2,5 gr butterfly tea
- 5 gr wool





- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the butterfly pigment and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime
- 10. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 1,25 gr butterfly tea
- 5 gr wool





- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the butterfly pigment and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime
- 10. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 0,675 gr butterfly tea
- 5 gr wool

BLUE



How to make

- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the butterfly pigment and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime
- 10. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 0,3375 gr butterfly tea
- 5 gr wool

PURPLE



How to make

- 1. Wash and card the raw wool
- 2. Create a natural dye bath with water and cabbage
- 3. Let the bath simmer for 3 hours and let cool off overnight
- 4. After 1 day, pour the dye bath through a filter to filter out the cabbage.
- 5. Check to make sure you still have 500 ml of water (if you have less, top it up to 500 ml, if you have more, don't worry it will evaporate in the end)

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 200 gr cabbage
- 0,5 gr vinegar
- 5 gr wool
- 6. Mix dyebath with glycerine and vinegar. It should go from a blue color to a purple color. Be aware that cabbage is VERY ph sensitive. Adding less vinegar and checking in steps is always the best option.
- 7. While whisking, add the sodium alginate
- 8. Cover up and let rest in fridge overnight
- 9. When rested, pour the liquid in the mold
- 10. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 11. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 12. Let dry for 14 days wintertime, 8 days summertime
- 13. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore. Be aware that when molding, the material can change color due to its ph sesitivity.

PURPLE



How to make

- 1. Wash and card the raw wool
- 2. Heat up the water and add the hibiscus tea.
- 3. Let simmer for 1 hour. Then let the tea cool off
- 4. When cooled off, filter the hibiscus tea out the water
- 5. Mix the colored water with glycerine
- 6. While whisking, add the sodium alginate
- 7. Cover up and let rest in fridge overnight
- 8. When rested, pour the liquid in the mold
- 9. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 10. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 11. Let dry for 14 days wintertime, 8 days summertime

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 5 gr hibiscus tea
- 5 gr wool

PINK



How to make

- 1. Wash and card the raw wool
- 2. Heat up the water and add the hibiscus tea.
- 3. Let simmer for 1 hour. Then let the tea cool off
- 4. When cooled off, filter the hibiscus tea out the water
- 5. Mix the colored water with glycerine
- 6. While whisking, add the sodium alginate
- 7. Cover up and let rest in fridge overnight
- 8. When rested, pour the liquid in the mold
- 9. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 10. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 11. Let dry for 14 days wintertime, 8 days summertime

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 2,5 gr hibiscus tea
- 5 gr wool

BROWN



How to make

- 1. Wash and card the raw wool
- 2. Heat up the water and add the holly hock.
- 3. Let simmer for 1 hour. Then let the mixture cool off
- 4. When cooled off, filter the holly hock out the water
- 5. Mix the colored water with glycerine
- 6. While whisking, add the sodium alginate
- 7. Cover up and let rest in fridge overnight
- 8. When rested, pour the liquid in the mold
- 9. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 10. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 11. Let dry for 14 days wintertime, 8 days summertime

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 20 gr holly hock
- 5 gr wool



BROWN

How to make

- 1. Wash and card the raw wool
- 2. Heat up the water and add the ivy.
- 3. Let simmer for 1 hour. Then let the tea cool off
- 4. When cooled off, filter the ivy out the water
- 5. Mix the colored water with glycerine
- 6. While whisking, add the sodium alginate
- 7. Cover up and let rest in fridge overnight
- 8. When rested, pour the liquid in the mold
- 9. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 10. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 11. Let dry for 14 days wintertime, 8 days summertime

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 60 gr ivy
- 5 gr wool

BROWN



How to make

- 1. Grind the paper till pulp. The better you grind the paper, the smoother the material becomes in the end. I used beige/grey paper.
- 2. Mix water and glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, pour the liquid in a blender
- 6. Add the coffee and the paper in the blender
- 7. Blend for 5 minutes untill one smooth mass
- 8. Pour the liquid in the mold
- 9. Let dry for 14 days wintertime, 8 days summertime
- 10. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore. What helps to prevent the material from molding (and with coffee it molds insanely fast) is to prepare the mold with ethanol and to sterilize the coffee. The last you can do by pouring ethanol over the coffee on a siff or treating the coffee in a pressure cooker.

- 500 ml water
- 10 gr glycerine
- 6 gr sodium alginate
- 10 gr coffee
- 25 gr paper from eggboxes (can be colored)





- 1. Wash and card the raw wool
- 2. Mix water, glycerine
- 3. While whisking, add the sodium alginate
- 4. Cover up and let rest in fridge overnight
- 5. When rested, add the coffee and stir till one smooth color mass
- 6. Pour the liquid in the mold
- 7. Add the wool in cross directions over de liquid (as if you would start felting the fabric)
- 8. Massage the wool into the liquid untill the wool in completely covered with the liquid
- 9. Let dry for 14 days wintertime, 8 days summertime
- 10. While drying keep an eye out for mold. When the material is molding, spray ethanol over the mold spot. Repeat this process when the mold comes back untill material is dry. When dry, it should not mold anymore. What helps to prevent the material from molding (and with coffee it molds insanely fast) is to prepare the mold with ethanol and to sterilize the coffee. The last you can do by pouring ethanol over the coffee on a siff or treating the coffee in a pressure cooker.

- 500 ml water
- 25 gr glycerine
- 15 gr sodium alginate
- 25 gr coffee
- 5 gr wool