**LITERATURE**

**Emulsifying Wax:**

Emulsifying wax is one of the essential ingredients in making lotions and creams. Think of it as the “glue” that will hold your recipe together. We’ve all seen how oily salad dressings separate after sitting for a while. You then shake the bottle until it appears to be mixed, but if you look at it closely, you will see little balls of the oil suspended in the liquid. Left to sit, the dressing will again separate into its different properties.

Lotions and creams are created from a mixture of water and oils. Without the addition of emulsifying wax, they too would separate back into water and oils.

Adding emulsifying wax to your recipe will keep the oil and water from separating by creating an emulsion between the oil and water. An emulsion is a system consisting of a liquid dispersed in an immiscible liquid. Immiscible means not compatible: not able to mix together to make a solution. Oil and water are a great example of two immiscible liquids. Emulsifying wax will also thicken your creation. If it were not included in your recipe, you would end up with a mixture that is similar to the consistency of salad dressing! Everyone knows that oil and water don’t mix, so how does the wax accomplish this seemingly impossible task?

Emulsifiers actually work on a molecular level, by attracting both water and oil to different sites at the same time. Water is a polar material. Things that like water are also called polar materials. Polar materials are also called hydrophilic. Hydrophilic materials are water-loving materials. Non-polar materials like olive oil are hydrophobic. Hydrophobic means water fearing. An emulsifier has a hydrophilic portion and a hydrophobic portion. This essentially means that it can effective bind both water and oils. It means that some structures of the emulsifier attract oil, while others soak up water like a sponge. Each part traps the liquid keeping it from breaking free to separate. As an added bonus, because the oil remains mixed with the water, the wax actually helps the oil penetrate the skin, thereby replacing lost moisture.