

A coastal scene with tall, dry grasses in the foreground, some covered in a light layer of snow. In the background, a body of water stretches to the horizon under a heavy, overcast sky. The overall mood is cold and serene.

Oils for Winter Skincare

Putting oils together - lesson 4

formulating for winter

Singly or in combination, the oils we've studied in the last two lessons have occlusive and emollient properties that can help protect the skin from harsh winter elements.

Whether in liquid oils or solid balms, protection for the skin lies in the fatty acids that occlude, cover, and seal in the skin's innate moisture and repel the vagaries of inclement weather.

Saturated fatty acids, very-long-chain fatty acids, monounsaturated fatty acids, and conjugated fatty acids offer the kind of protection the skin needs in the colder months.

Mimicking the lipid composition of our epidermis provides the skin with what it uses best and can incorporate into its own lipid matrix.

Offering the skin compounds already part of the skin's structure is the best way to support and maintain its natural functions.

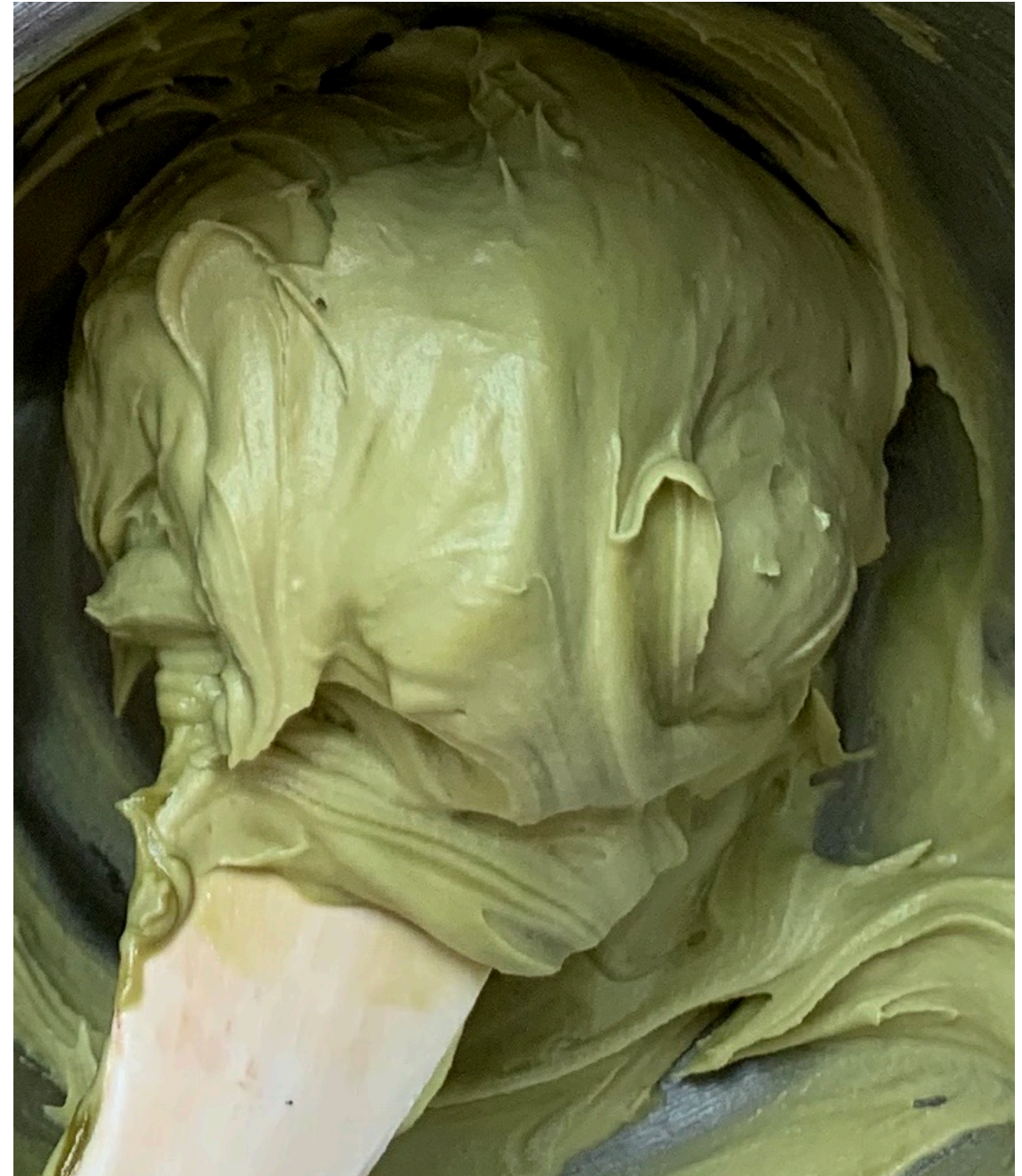
review of occlusive oils

Each group of epidermal lipids, below, has corresponding plant oils that can augment the natural lipids to help protect the skin.

Saturated	41%
Monounsaturated	16%
Polyunsaturated	29%
20+carbon chain	23%

In the following slides, we can review the fatty acid groups and the oils we can find them in.

Followed by formula outlines and suggestions for protective combinations.



occlusive - saturated

The most protective oils are those that create an occlusive or semi-occlusive protective coating on the skin.

Note that the fatty acids of the epidermis are

41% saturated: the most occlusive fatty acids act as a natural waterproofing layer.

Saturated fatty acids are primarily occlusive and provide the most significant barrier support.



semi occlusive - 20+

Saturated	41%
Monounsaturated	16%
Polyunsaturated	29%
Very long 20+	23%

The next protective type of semi-occlusive fatty acids is very-long 20+ carbon chains.

I call these the **20+Carbon oils**.

Of the epidermal oils, 23% are very long 20+ carbon atoms, both saturated and unsaturated.

They are inherently protective against the elements and oxidation.



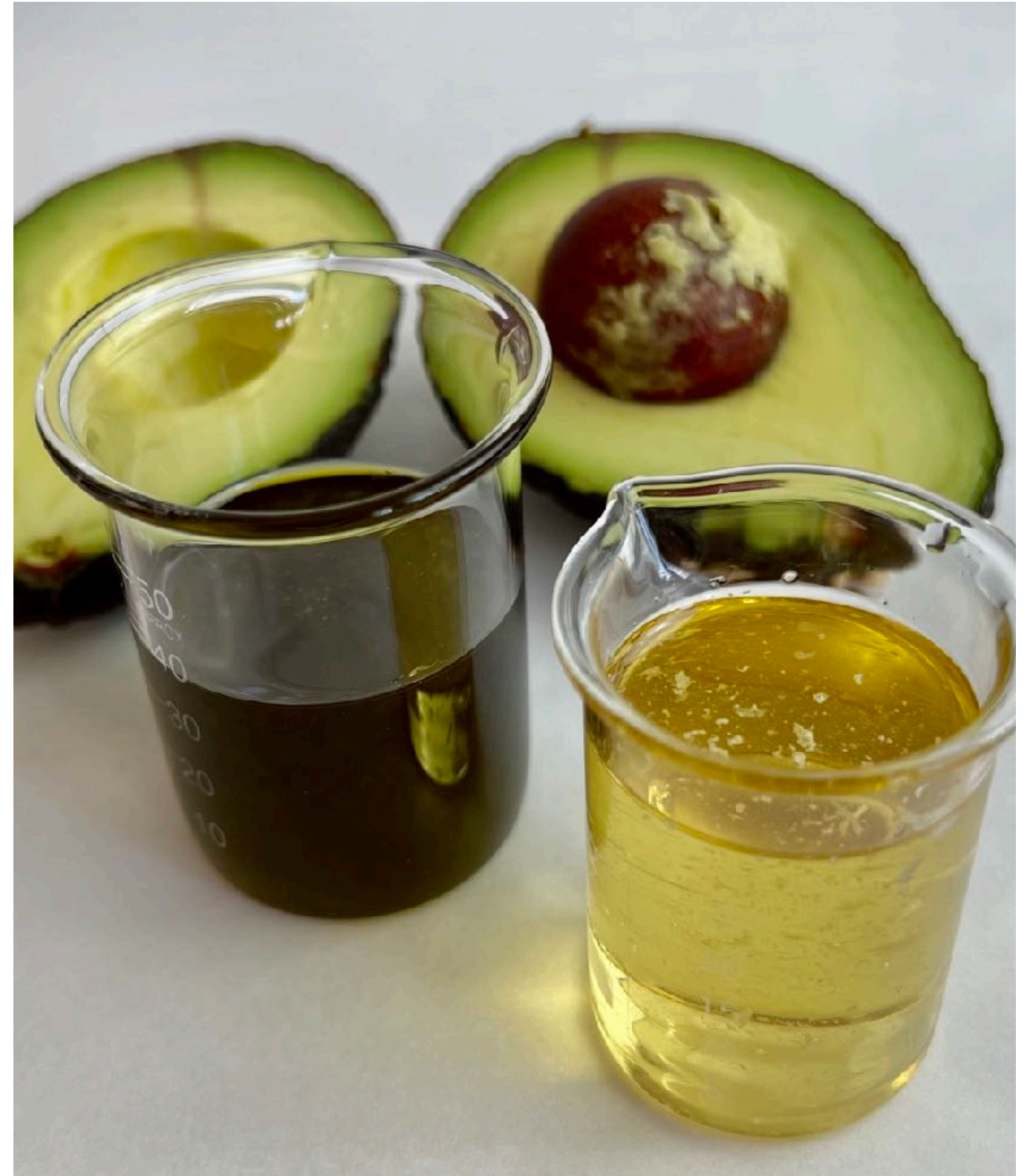
semi-occlusive - mono

Saturated	41%
Monounsaturated	16%
Polyunsaturated	29%
20+carbon chain fatty acids	23%

Monounsaturated, 16% of the epidermis, often oleic acid, is easily included in an oil serum.

Almost every oil has some oleic acid as part of its fatty acid profile.

Monounsaturated oils will feel less heavy than saturated, and can be increased when used in less severe weather.



semi-occlusive - emollient

Saturated	41%
Monounsaturated	16%
Polyunsaturated	29%
20+carbon chain fatty acids	22%

The skin's epidermis, at **29% polyunsaturated** fatty acids, is less protective in extreme weather as the unsaturated structure more easily absorbs into the skin.

However, this group includes **conjugated fatty acid oils** that protect the skin even though they are polyunsaturated.



plus emollience

Saturated	41%
Monounsaturated	16%
Polyunsaturated	29%
20+carbon chain fatty acids	22%

Any discussion of the skin must include **linoleic acid**, as it plays a large part in the maintenance of the barrier function of the stratum corneum.

As oils are mixtures of many fatty acids, including a measure of linoleic acid in a formula, will provide this fatty acid along with the more protective occlusive fatty acids.



putting oils together

The following slides show two pie charts of oils with varying fatty acid ranges. These two oils dominate the formula, with between 30 and 50 percent of each.

The remaining balance for the third oil rounds out the formula and adds value to what the skin needs to support epidermal lipids.

These are a few suggestions to help protect the skin with a range of occlusive and semi-occlusive oils.

Actual formulas are available to guide you in formulating for cold, dry elements.



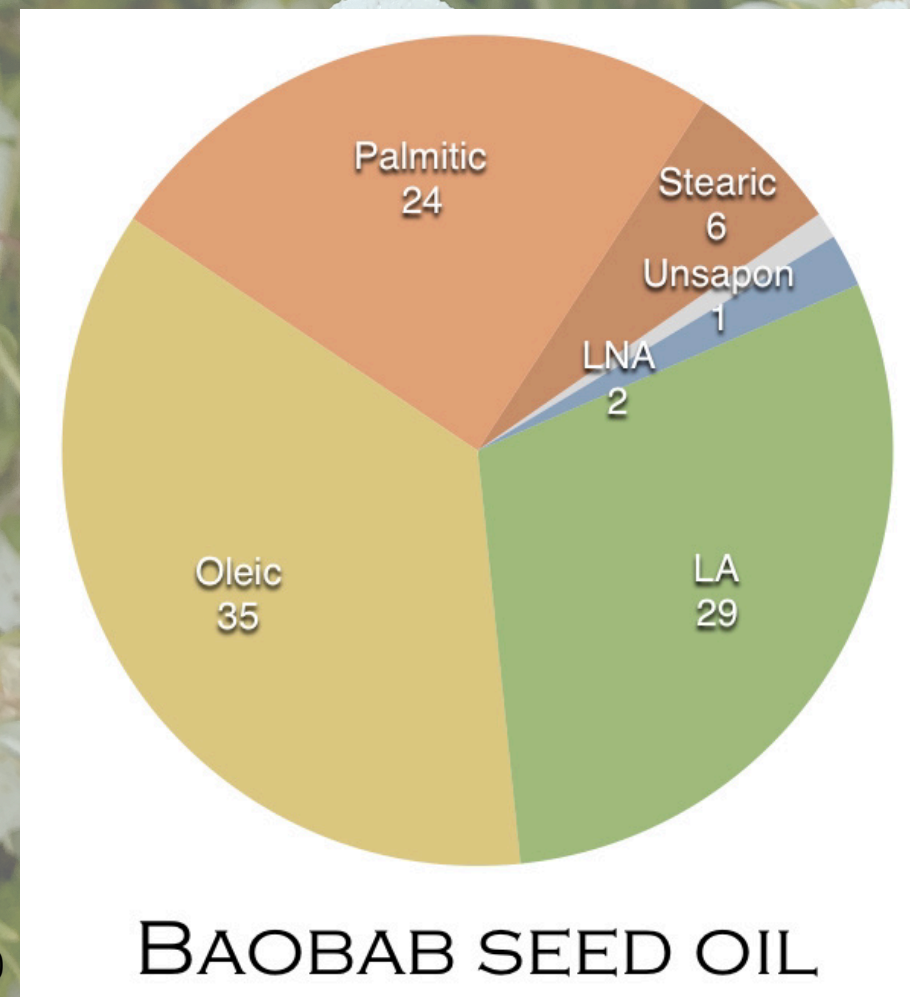
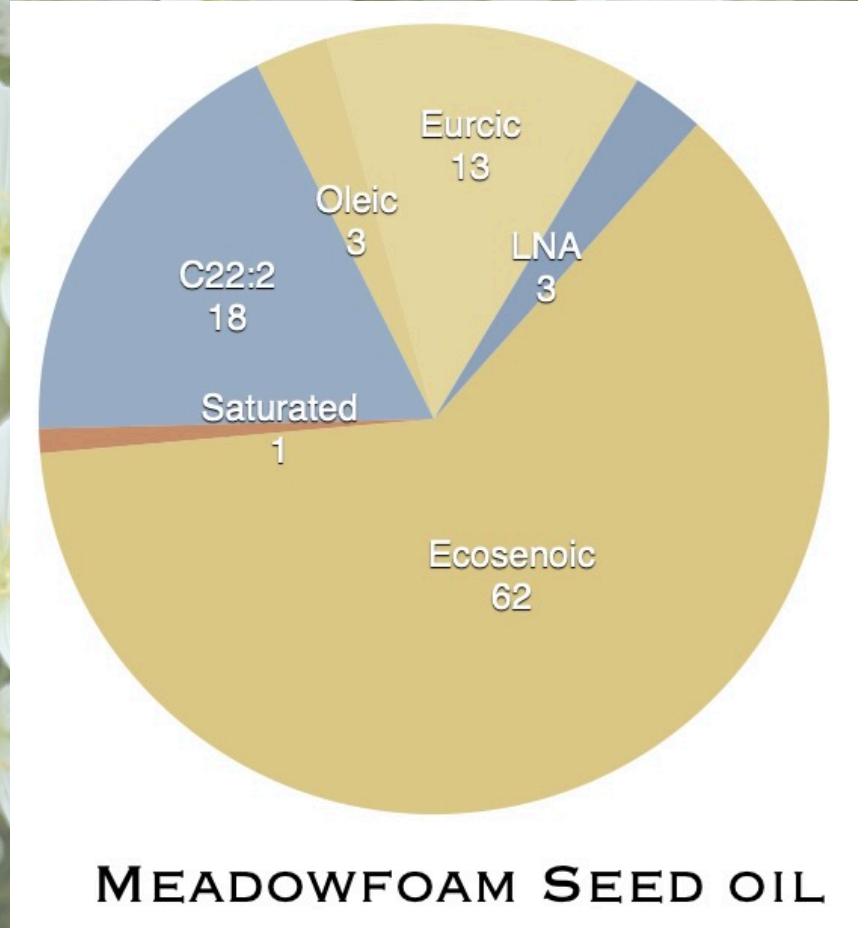
formula #1

Meadowfoam is such an excellent oil for protecting the skin so that we can begin with it at 40-50% of the total.

In this corrected pie chart, which aligns with the colors in baobab, we can see how much is yellow, or monounsaturated fatty acids, with most over 20 carbon atoms long.

In the Baobab pie chart, you can see a somewhat balanced profile of fatty acids —saturated, oleic, and linoleic —which will offer occlusiveness and emollience.

A third oil could include Nigella, Black seed oil, for its thymoquinone and rich healing fraction.

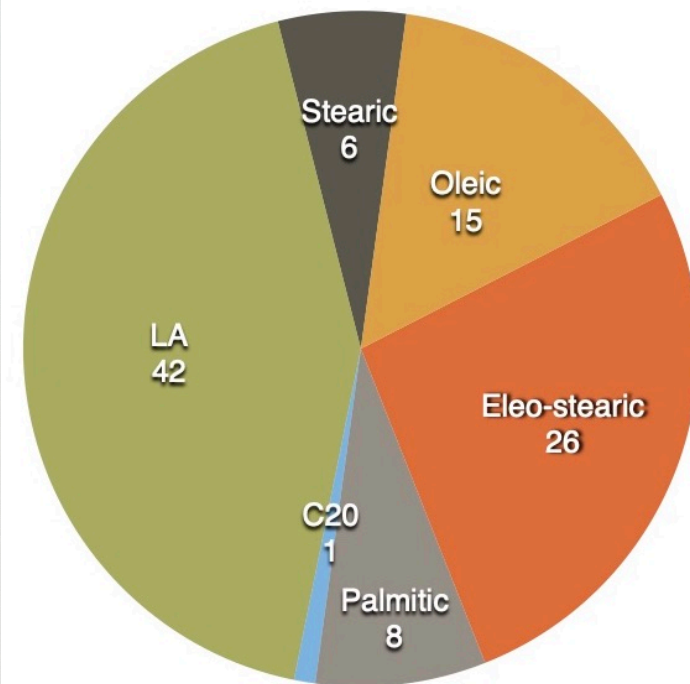
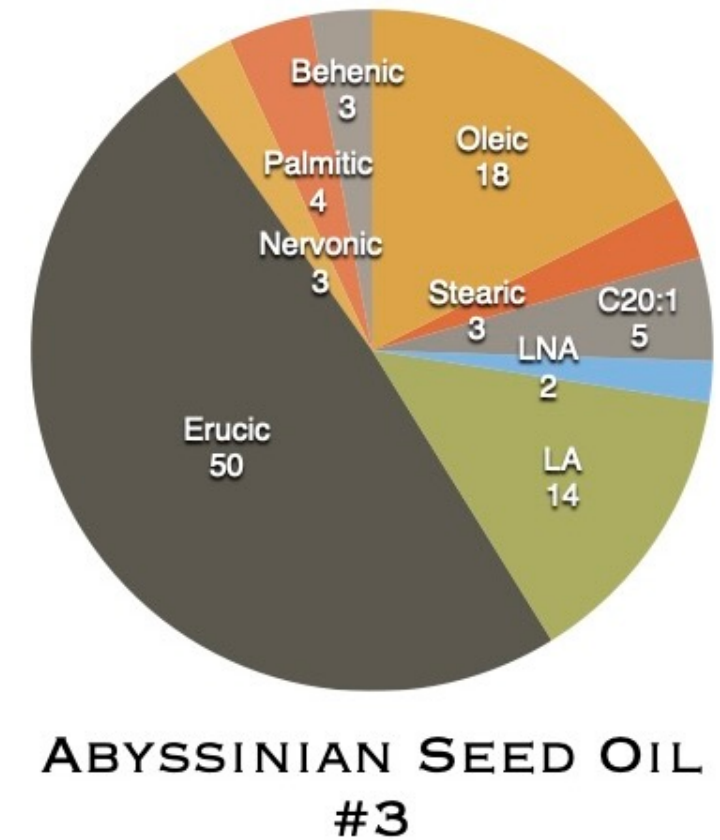


formula #2

When we combine Abyssinian seed oil, we get an occlusive layer from the Erucic C22:2 acid and the conjugated eleo-stearic acid of the Manketti oil.

This combination provides a strong occlusive barrier and a good amount of linoleic acid, which supports the ceramide structure of the stratum corneum.

I've combined these with borage seed oil to provide anti-inflammatory GLA (gamma-linolenic acid) to help control redness that can come with extremes in skin.



formula #3

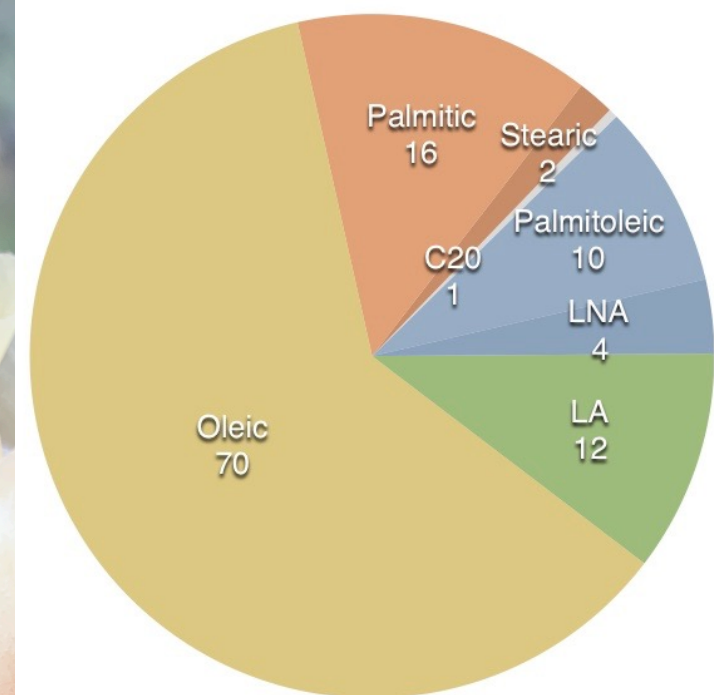
This combination is oleic acid-dominant, a good choice for milder weather where you still need protection.

Avocado oil and Pracaxi oil create a formula with additional significant fatty acids.

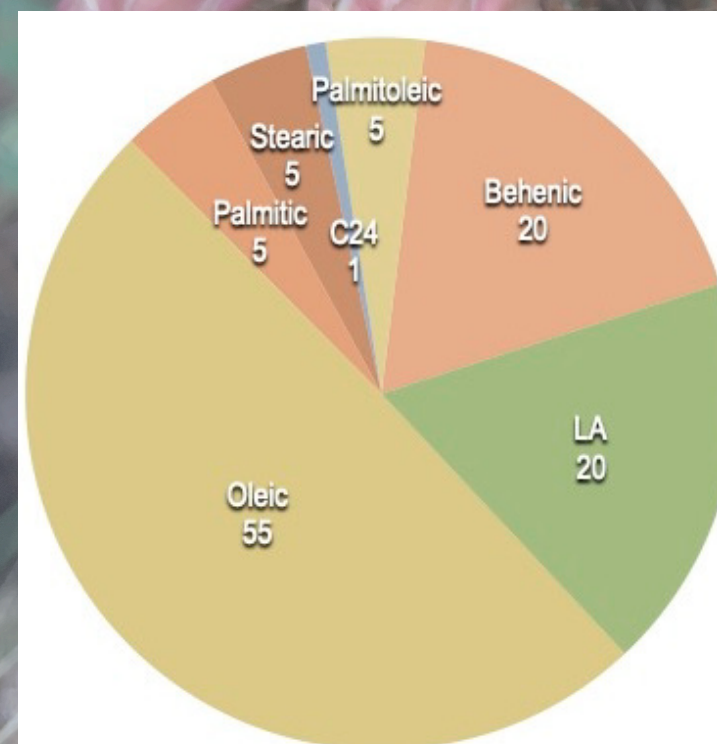
Occlusive properties in the Behenic, a C22 saturated fatty acid, and Palmitoleic acid in both oils, support the skin's innate fatty acids, while Linoleic acid supports the barrier function.

Pracaxi oil can solidify in winter, so avocado oil at 50% or more will keep this formula liquid and still able to protect the skin.

Prickly pear seed oil will deliver vitamin E, and beneficial fatty acids.



AVOCADO OIL



PRACAXI OIL

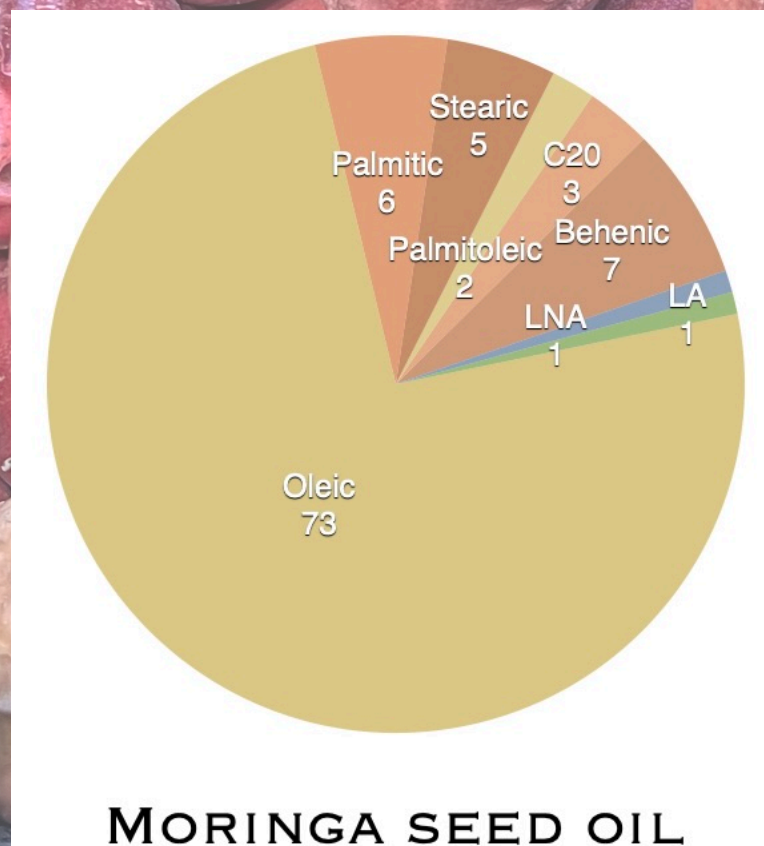
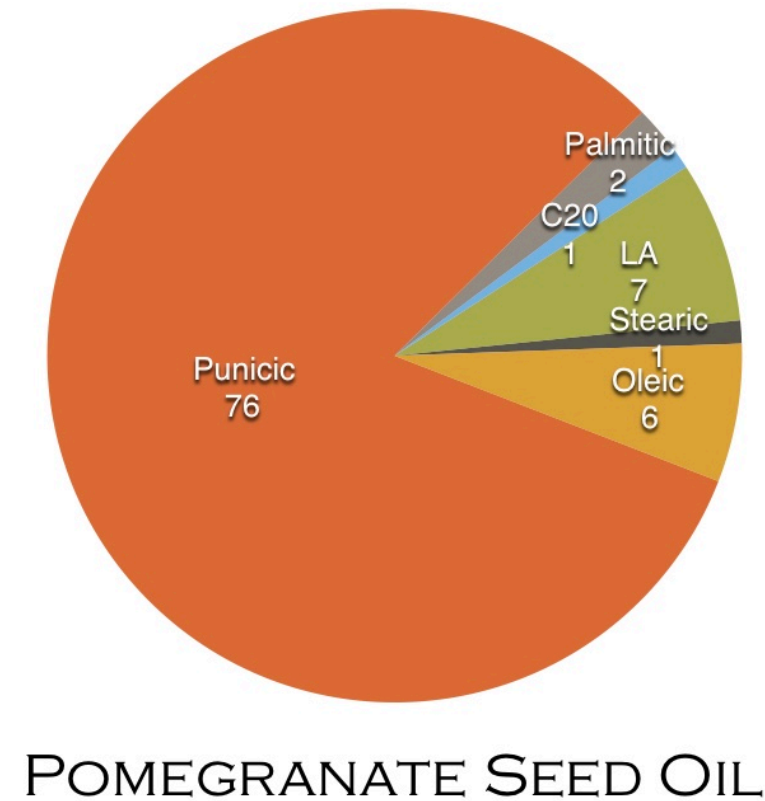
formula #4

Pomegranate seed oil contains its own fatty acid, punicic acid, which gives it a dark orange color, so there is no comparable pie chart.

It is over 75% a unique fatty acid that is unsaturated yet feels thick and protective.

Moringa balances the thick, viscous feel of pomegranate seed oil with oleic acid, along with smaller amounts of saturated fatty acids.

These oils, however, are very low in linoleic acid, so adding 5-10% passion fruit seed oil will balance out that deficiency in the combination.



formula #5

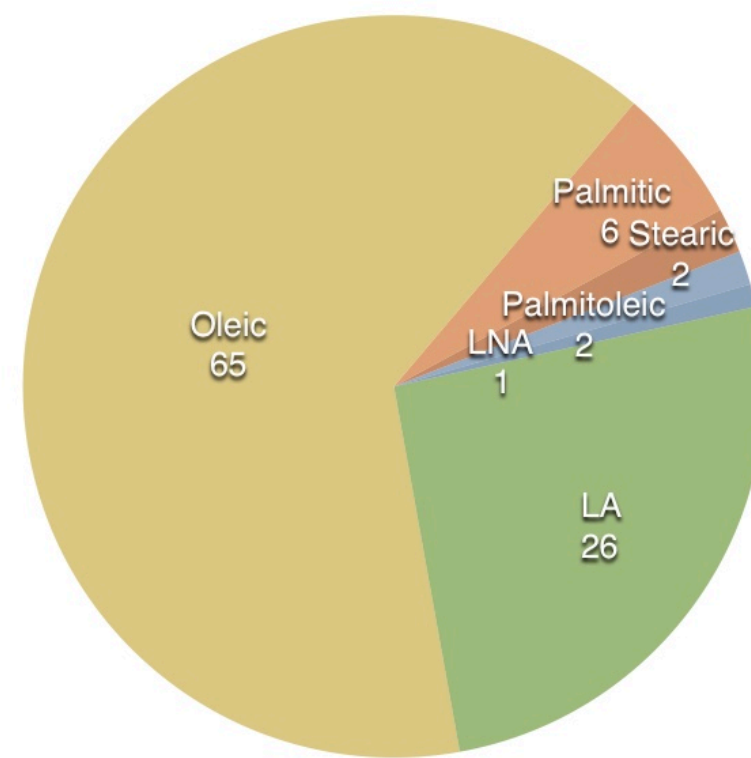
Ghee's predominantly saturated profile offers an interesting range of unusual fatty acids in a single fat.

But, being mostly solid, if soft, it needs to be no more than 15% combined with apricot kernel oil to create a liquid formula.

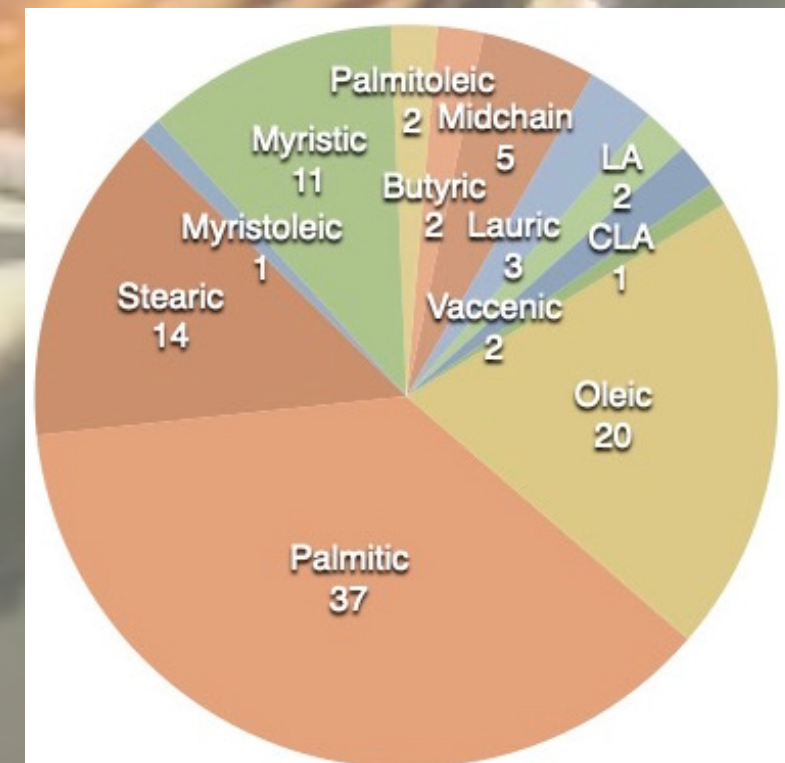
The apricot and ghee will deliver sufficient oleic acid and saturated fatty acids.

To give this combination 20+ carbon chains, jojoba oil can provide them and help keep the final formula liquid.

The skin will do well with these oils. Adjust the ghee percentage to keep the final combination liquid. The final may need a note to shake well before use.



APRICOT KERNEL OIL



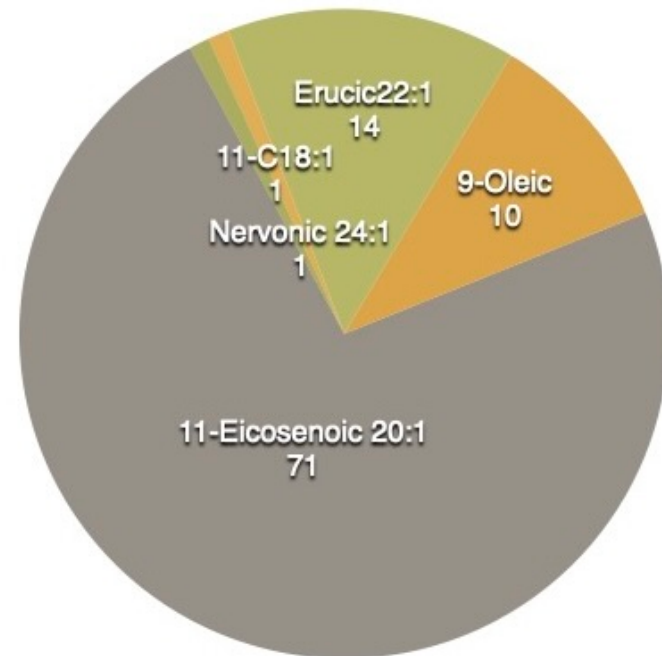
GHEE

formula #6

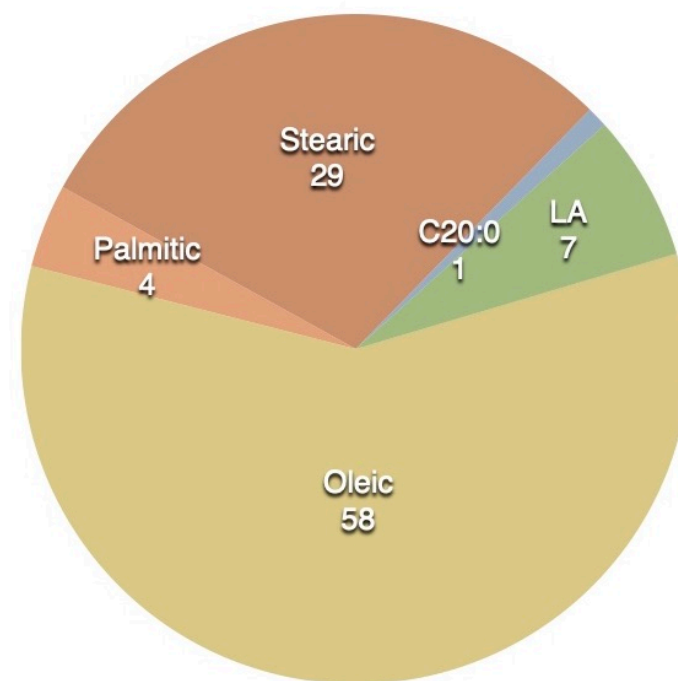
Jojoba oil and Shea Nilotica, a liquid oil/wax, and soft saturated butter, so that the Jojoba will be the greater part of the base formula.

The very-long carbon chains of Jojoba will give the oil occlusive protection and a generous healing fraction, so the combination remains liquid.

A third oil could deliver a generous linoleic acid percentage to complement the saturation in shea and the 20+ in Jojoba; passion fruit and cucumber are two suggestions.



JOJOBA OIL



SHEA BUTTER
VAR NILOTICA

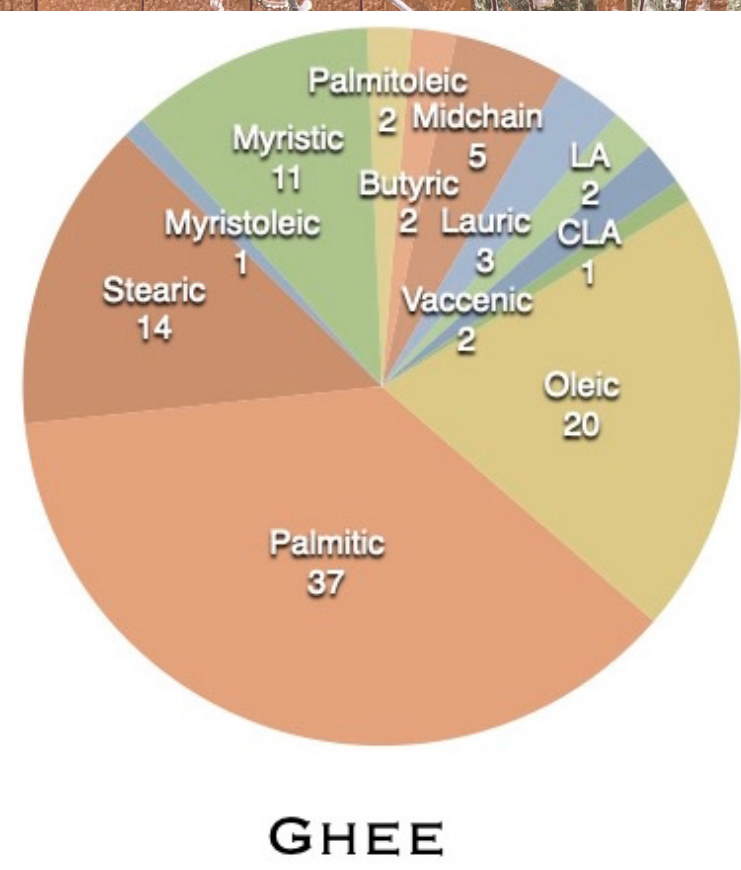
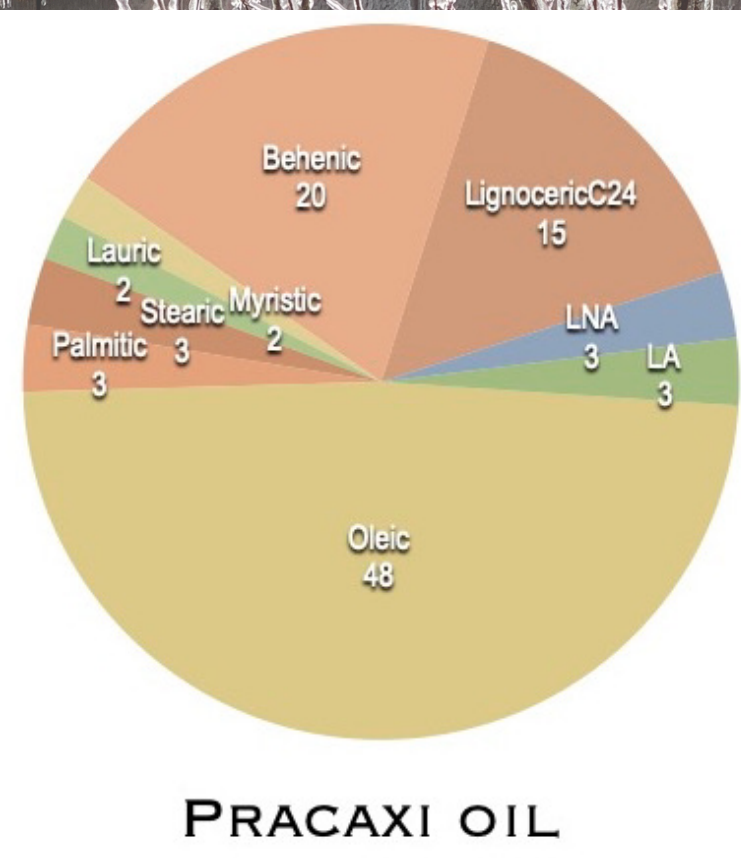
formula #7

Initially, I was intrigued by the fatty acid profiles of Ghee and Pracaxi to see what each offered the skin.

Ghee still takes the top spot for complexity, but pracaxi is pretty diverse too.

Because most pracaxi oils become solid at cool temperatures due to their behenic acids, additional 20+ carbon chains, and saturated fatty acids, this combination can be the basis for a solid balm.

Adding wax, another butter, such as murumuru, or tallow to these will provide very protective protection in the most extreme conditions.



art of formulation

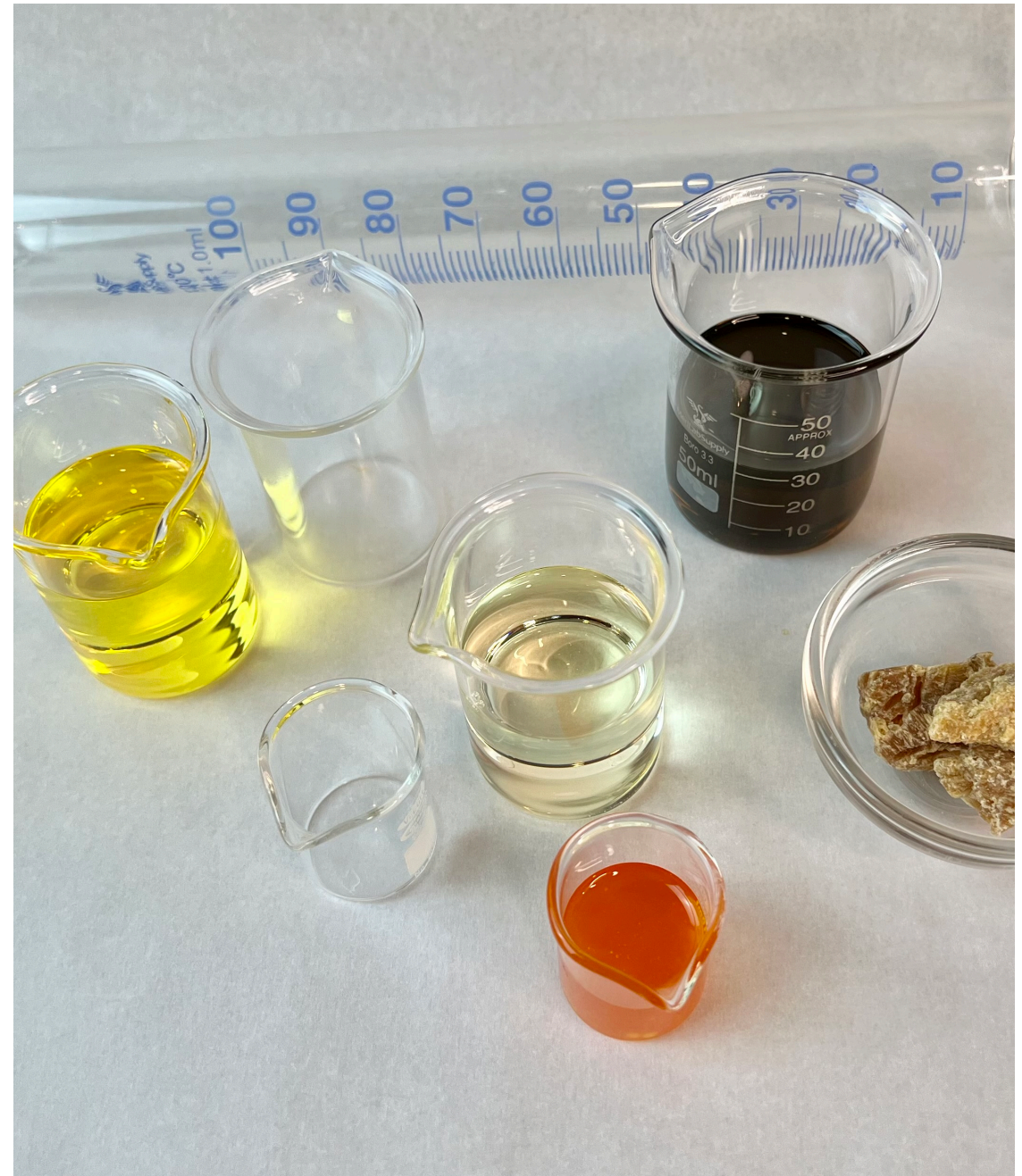
I have now shared seven approaches for formulating with occlusive and semi-occlusive oils to protect against extreme weather.

But these are not the only oils we can combine to make particularly protective formulas.

Take time to consider the properties that an oil or butter can bring to the skin to help protect against damage from weather extremes.

Consider these suggestions as a starting point that can be modified.

There are too many oils for us to limit ourselves to these choices we have covered in this course.



the epidermal lipids

Saturated	41%
Monounsaturated	16%
Polyunsaturated	29%
Very long 20+	(23%)
both saturated and unsaturated	

It is the skin we want to protect, and its lipid composition closely aligns with the natural oils of plants and animals.

Applying oils liberally to the skin will help protect it from moisture loss and lipid deficiencies.



in the next lesson...

In the next slide lesson, I have added recipes with percentages, milliliters, and ounces of the suggested formulas covered in this lesson.

These will help you to try your hand at putting a few oils together and giving them a try on your skin when the weather turns cold and extra dry.

These combinations are a place to start. Over 170 oils in the lipid oils database cover these and many more possibilities.

So you can understand how I picked a few that apply to our subject of cold winter seasons, but I encourage you to experiment with other variations based on the principles we've covered.



