Mediaeval Swedish herbal medicine known today as schnapps



V1.1

Written by
Sir Asbjorn Pedersen Marsvin
martin at forest dot gen dot nz
(Martin Forest)
SCA-Shire of Darton, Kingdom of Lochac
(New Zealand)

Table of Contents

Historical information	
How alcohol was produced	2
Period distilling	2
Modern distilling	
The wash	
Distilling	
Carbon treatment	
Herb medicinal properties	5
LEMON - Citrus Limon (Rutaceae)	
FENNEL - Foeniculum vulgare (Umbelliferae)	
DILL - Anethum graveolens syn. Peucedanum graveolens (Umbelliferae)	6
WORMWOOD - Artemisia absinthium (Compositae)	6
ANISE (Pimpinella anisum)	7
CUMIN (Cuminum cyminum)	
Mixing / recipes	9
Akvavit	
Skåne	
Lemon.	9

Historical information

Spirits arrived in Sweden during the 15'th century. The German merchants brought the hitherto unknown liquid to Scandinavia.

It was initially used for medicine and gun powder, not as a drink to get drunk, and known as 'brännvin' – burned wine. In an accounting book for Stockholm City1467-1470 is a note regarding the gun powder maker Berend receiving 4 "ortugar" (pennies) for "brand wyn for powder".

In 1479 the City of Stockholm announced: "Only spirit provided by the council may be sold. If any one is found selling other spirits they will be fined 12 mark." (I have compressed old Swedish to short modern Swedish and then translated it to English). This announcement indicates that production of spirits had actually started in Stockholm.

By the end of the 15'th century, it was clear that spirits were being used for drinking. The City continued to try to control its use. In a court ruling from 1494 it can be found that it was illegal to produce and sell spirits for any other use than for the production of gun powder.

It may appear that it was the powder producers that introduced spirits to Sweden. This is not actually true. 1498 the company Corth Flaskedragare in Stockholm were given license to produce and sell spirits, as long as they supplied all the powder makers in Stockholm.

At the same time, spirits began to be used in medicine. This area also was restricted. Only privileged pharmacists were allowed to provide the so called "life-elixir", Aquavitae, for medicinal purpose.

Flavoured spirits as medicine.

Aquavit maintained an important role in medicine for several centuries. Through adding herbs, spices and other extracts, spirits were used to treat all kinds of illnesses and miseries.

One of the oldest recipes can be found in Peder Mansson's leech book from 1522. A Bishop from Vasteras, he describes how to get the best from his medicines: "add spirit, add herbs, spices, root, seed, flowers or something else suitable to a glass, let it sit in the sun for 3 hours or keep it over a small fire. This way, it will absorb the same goodness and power as the ingredients have in themselves".

Even the Swedish royal household contributed recipes for flavoured spirits. In 1589, the pharmacist to King Johan III, Simon Berchelt, produced two recipes that were to be used as universal medicine throughout Sweden. The first was called "Aqua vitae contra oppositum". It was based on distilled wine, spiced with root of Angelica and a few other herbs. It caused sweating and was thus considered effective against the plague. The second recipe, "Aqua Vitae for poisons and all sorts of illness" was used as a preventative against contagious diseases.

In the next few centuries, many different spiced spirits and "health drinks" were created. They can be found in medical and herbal books, cook books, with distillers, wine traders and many other sources. Some of the most common spices and herbs are cumin, fennel, aniseed, chervil, hyssop and wormwood.

Home distilling

During the 16'th century, distilling was mainly done in the cities. Some larger estates were also distilling. However, in the beginning of the 1600's, distilling started to spread to the general population in Sweden. One reason for this was the discovery of alternative raw materials. Instead of wine, grains were used to produce the wash, and the common folk soon learned to distill for their own needs. Brannvin became a common drink in the country.

How alcohol was produced

Period distilling

In the Danish cookbook published in 1616, there are several recipes for alcoholic beverages, including a lengthy treatise on how to distill your own brannvin, as well as the many benefits of regularly drinking some. The translation, made by my wife, follows:

Chapter III. About aquavit.

Take barm or yeast [probably referring to a wash made with either barm or yeast], put it in the pan but not too much. Make a wood, a little longer than the pan is high, and make it wide at the end, with which you can stir when it gets hot until it seethes. Make a good hot fire with dry wood under and then stir long with the wood until you feel it begins to boil and wants to boil over. Then take away the fire, and cover the hatch or oven door so it doesn't give off as much heat. Then put the hat or the helmet on, so that the pipe of the hat fits into the pipe on the barrel which the cold water is in. Then cover with dough or well prepared clay dipped in the barm. Then put out the receptaculum or glass/bottle/pot etc. for it to run into. Then let it run until the good spiritual matter is run out in the crock or bottle which you can tell this way: pour a little in the fire. If it goes out and doesn't give off a blue flame, then it is no good anymore. Take then the pan off, pour the barm into a barrel for the pigs, then add new barm or yeast. Do everything as before, as many pots as you wish. But what you have made thereof, cover it tightly so it doesn't evaporate, break through with its subtle smell and so disappears into the air.

When you now have burned or distilled as many pans as you want, then take this collected phlegm (that which you have received for your efforts), and put it in the pan again, so it is half full (however the pan must first be clean scoured and rinsed inside, as well as the hat and both pipes, both the one leading from the helmet and that through the barrel of water, wiped well inside with a cloth, tied on a long stick, and then rinsed afterwards.) Cut ginger in small pieces, Item Calmus you may also take cinnamon, pepper and other herbs if you like, as much as is suitable for taste, throw it in the pan with it, put the hat or helmet on, and tie or cover it tightly and always keep cold water in the barrel. Then make a slow and small fire under it, put a receptaculum or bottle in front and distill then until the best is of the same phlegmate and the liquid drawn out, which you can tell just as before if you pour some in the fire and it burns.

Here you must now note particularly two things.

That you must regulate the fire that it doesn't get to hot or too weak. If it is too hot you'll know by the pipe is steaming. If the fire is too weak then nothing will drip. You use well dried wood when you first burn the barm, but when you distill or clear you use coal.

II. Take care that there is no spark near the pipe, for the wine draws the flame and blows the hat off so that those who are there take care. I know those who have been hurt by this, that they lost their lives.

If you want a good drink for your own life, then take a peel or a half pot off before. For that which runs off last isn't without poison, and is hurtful to the stomach. Here I now wish to list what good things aquavit brings, when it is used in moderation and not to excess.

- 1. Gout and pain where it is in the back, legs etc. rubbed before a slow fire with strong aquavit stills the pain.
- 2. He who is hoarse, rub the neck with aquavit and drink it on an empty stomach three mornings.
- 3. He who each morning drinks a small spoon full, especially old people, then he hardly gets sick. For it destroys the slimy fluid which causes the sickness.

- 4. If a man loses his speech near death, then give him aquavit in the mouth, and he immediately speaks.
- 5. If you want to give aquavit to a dead person, then the body doesn't rot quickly, neither above nor below ground. Nor stinks.
- 6. He who has bladder stones, he drinks a little in the morning, then it breaks the stone so it is in two and leaves him.
- 7. He who every morning drinks a little aquavit then the worms die that are around the heart, lungs or liver.
- 8. he who often has a headache, he drinks the same drink and also wipes his head therewith.
- 9. He who has a cough, drinks aquavit with other wine and that helps.
- 10. He who cannot hear, put a drop in the ear then he will hear.
- 11. He who has the (tuberculosis), drinks aquavit and rubs his belly therewith in front of a hot fire.
- 12. He who has worm in the ear, a dram therein and he dies.
- 13. He who rubs the skin on his head and face with aquavit has always beautiful skin, strengthens the mind and brain.

Moderndistilling

One would think that period distilling would be the way to go when working with Medieval schnapps/medicinal drinks. However, to do so would put both my life and our house at risk. There are many warnings found in mediaeval literature warning of the risk of explosions. Lets face it, warm alcohol fumes are extremely explosive. Even with modern equipment, people die in Sweden today from exploding stills. Therefore, I'm happy to use a modern still in a well ventilated room. With modern equipment, it is also easier to get rid of the "phenol oil" that gives a quite foul taste. Today, I only need to run the still once, while if I were using more period methods, two or more runs in the still would be required.

The wash

I prefer as "clean" a wash as possible. With 'clean', I mean as pure alcohol with as little flavour as possible. There are many ways to make a wash, using potatoes, wheat, hops, wine, beer, mead, wine and many more. The best base I know is white sugar. However, east does not ferment sugar well since the yeast needs nutrition in order to work. Most of the time, I buy a ready mix of nutrition and east from the local brewing shop. The best style I've found is a product called Turbo yeast from Sweden. (Funny that Sweden are the market leader in yeast and nutrition products even though it is highly illegal to home distill in Sweden...)

For a standard wash I use:

- 6 Kg white sugar
- 1 Pack of Turbo yeast
- Water to make it 25 liters in total

I start by melting the sugar in water on the stove. It normally takes me 3 pots in order to melt all the sugar. I try to end up with a temperature about 38 degrees Centigrade when I have added the rest of the water. I also try to oxidate the water when I add the cold water. I simply use the garden hose to fill up with water.

The wash normally takes about 3-7 days to ferment. I let it sit for another week or two to make sure all the yeast has dropped to the bottom. I use a barrel with a tap close on the bottom. I put the barrel on a bench and my still barrel underneath and then I open the tap. This way, the wash splashes down into the still

barrel and I get rid of almost all the carbon in the wash. My still takes 25 liters so I only need to run it once for one batch.

Why do I use sugar? I'm not an expert in chemistry and am very worried about producing methanol. As most people know, methanol usually makes the consumer blind and in many cases kills the person. I am currently looking into basing the wash on more period ingredients such as grains. But I need to do some more investigation and consult an expert on methanol to ensure that I will not produce poison. Even though I normally strive towards doing things the period way, I don't want to gamble with my or anyone else's life.

Distilling

It is important to make sure that you don't distill above 78.3°C. If you run the still above this, you will start to include other substances such as "amyl alcohol" (not sure of the English word) and other alcohol/oil based products that either taste or smell bad.

The temperature where water, oils and alcohol boil depends on air pressure and altitude. The standard boiling points for water is 100°C and for alcohol 78.319°C. However, when distilling you don't want the alcohol to boil. Therefore, distilling should be done a couple of tenths of degrees below the boiling point. A good temperature is 78°C for distilling. Ones the distilling starts, it is vital to discard the first 4cl. The first 4cl include different oils, perfume, methanol etc. These either taste bad or are actually poisonous. Most of the time, it is impossible to produce methanol but it can happen if the sugar and/or nutritions include impurities. This is why one must dispose of the first few cl.

If the still is working perfectly, you should get about 94-96% pure alcohol. (Don't taste it, it can kill you!) You can sniff it to see if there is a strange smell, i.e. impurities. But be careful, it can burn a little in your nose. Once, I sniffed at the outlet and did not notice that I had a little too little cooling water, so I got a noseful of pure alcohol fumes. I got drunk within a few seconds... (Cheap, but not nice...) My nose hurt for a few hours. Based on poor judgment (I wonder why), I decided to taste rather than smell it and burned my lips. Burned nose and burned lips are not nice. Don't try it. Dilute, then taste.

It is impossible to not get some of these "other" alcohols and oils when distilling. This is why we clean the alcohol with active carbon. There has been a lot of development in that area as well. I do the carbon treatment in two steps.

Carbon treatment

Before cleaning the alcohol with active carbon, it is important to dilute the alcohol to below 50%. The optimal effect is achieved at about 38%. I'm normally aiming for 42%. You will lose a percent or so during the treatment.

When carbon treating the alcohol, I use a 5 liter bottle with a hose attached at the bottom. I fill the bottle with 5 liters of 43% alcohol and then I add a crushed highly active carbon. I shake the bottle every few hours for 24 hours. I then let it sit still for 1 to 2 days so the carbon sinks to the bottom. I then add 1mm active carbon in a filter attachment on the hose, with a paper filter at the bottom to prevent the carbon from escaping. Just above the filter is a small tap that I open and the alcohol slowly starts dripping through the filter. I allow about 100ml to go through the filter before capturing the alcohol in a bottle. I carefully pour the first 100ml back in the the bottle for retreatment. (It normally includes carbon dust.)

When this is done, it's time to have fun. One thing I have noticed is that I rarely get hangovers from home made alcohol. Strange but a fact.

Herb medicinal properties

This chapter will discuss some of the different mediaeval herbs, seeds, roots, fruits etc I use for flavouring the alcohol. This chapter will be developed more and more in the future as I learn more about the ingredients apart from the nice taste you get from them.

LEMON - Citrus Limon (Rutaceae)

A native from Asia, probably from India, it is now widely cultivated in Italy, California and Australia. Lemon was unknown to the ancient Greeks arriving in Europe probably brought by Roman soldiers returning from Asia Minor. It is one of the most important and versatile natural medicines for home use. A familiar food as well as a remedy, it has a high vitamin C content that helps improve resistance to infection, making it valuable for colds and flu. It is taken as a preventative for many conditions, including stomach infections, circulatory problems and arteriosclerosis. Lemon juice and oil are effective in killing germs. It decreases inflammation and improves digestion.

Lemons are another citrus fruit that did not become widely known until the Middle Ages. They soon became very popular and were thought to encourage longevity and faithfulness. Lemon pie fortifies fidelity, and lemon slices on a stranger's plate or under his chair guarantees his or her friendship. Lemon juice is a powerful cleaning agent and is used to wash magical implements of all types of toxicity. A cleansing tea is made from dried lemon peels.

MAIN PROPERTIES: Antiseptic, anti-rheumatic, antibacterial, antioxidant, reduces fever.

Alchemically it belongs to Fire

FENNEL - Foeniculum vulgare (Umbelliferae)

Effects in schnapps: Fennel provides a light liquorice taste to the schnapps.

Native to the Mediterranean, fennel has spread to surrounding areas, including India. Known to the Greeks and Romans, is was used as food, spice and medicine. The primary use of fennel seeds is to relieve flatulence, but they also settle colic, stimulate the appetite and digestion. Fennel is also diuretic and anti-inflammatory. Like anise (Pimpinella anisum) and caraway (Carum carvi), it has a calming effect on bronchitis and coughs. An infusion of the seeds may be taken as a gargle for sore throats and as a mild expectorant. Fennel increases breast-milk production and the herb is still used as an eye wash for sore eyes and conjunctivitis. Essential oil from the sweet variety is used for its digestive and relaxing properties.

Fennel was considered sacred to the Greek god of ecstasy, Dionysus, and was a part of the Dionysian mysteries. The plant's stalks were fashioned into long scepters with pinecones on top that were carried in ceremonies. For personal use, fennel is infused into a delicate, spiritually purifying, physically healing tea that eases nausea, relieves gas, and helps arthritic conditions. The multifaceted herb is still fed to cows to stimulate milk production.

Alchemically it belongs to Fire

For more than 15 hundred years fennel was thought to be the most effective remedy for eye diseases. Perhaps this was based on Pliny's story about snakes, that eat fennel seeds in order to restore their vision. In addition to eye diseases it was also used to cure fever, insanity and stomach ailments.

It was thought that fennel hung over door prevented witches from entering the house.

MAIN PROPERTIES: Digestive, antispasmodic, anti-inflammatory.

DILL - Anethumgraveolenssyn. Peucedanumgraveolens (Umbelliferae)

Effects in schnapps: Dill gives a fresh and mild taste to the schnapps.

Dill is an annual plant of the parsley family and was considered sacred to the Egyptian god Horus. Both the dried plant and seeds are used as spices that stimulate the Sacral Chakra. Dill's active, dominant presence stimulates sexual desire if smelled or eaten, and combining dill with such phallic symbols as pickles only increases the effect. The Romans fed dill to gladiators to give them courage, and placed in a cradle or crib, the plant is said to protect children from harm. It is also used to combat urinary infections plus quell hiccups, flatulence, and indigestion.

An ancient Egyptian remedy in the Ebers papyrus (c. 1500 BC) recommends dill as one of the ingredients in a pain-killing mixture. The Romans knew dill as anethum, which latter became "anise". Dill has always been considered a remedy for the stomach, relieving wind and calming the digestion. Dill's essential oil relieves intestinal spasms and griping and helps to settle colic, hence it is often used in gripe water mixtures. Chewing the seeds improves bad breath. Dill makes a useful addition to cough, cold and flu remedies, and is a mild diuretic.

Dill increases milk production, and when taken regularly by nursing mothers, helps to prevent colic in their babies.

Dill protected people from witchcraft. In addition, if one placed the seeds of the plant in one's shoe before entering the court room, one would win the case.

Medicinal use: eye diseases, stomach ailments

MAIN PROPERTIES: Digestive, antibacterial, antispasmodic, diuretic.

Alchemically it belongs to Fire

WORMWOOD- Artemisia absinthium (Compositae)

Effects in schnapps: A bitter taste. Be careful, wormwood is poison. Make sure to not make it too strong or to drink too much of it.

Good for: When eating a lot of rich food, it helps digest the fat. It is also good for "food hangovers". This may be why it became the most popular schnapps in Skane (south Sweden or east Denmark during the 14'th century. Skane is well known for its "rich" food culture.) The modern name for schnapps made with wormwood is "Besk" (Bitter). But with the popularity in Skane and the wide usage of it there, it is now called "Skane" in Sweden (except of course in Skane where it still is called Besk).

Native to Europe, wormwood was called absintium by the Romans, which means "bitter". Wormwood leaves primary use is to stimulate the gallbladder, help prevent and release stones, and to adjust digestive malfunctions. It also increases bile secretion and is useful in expelling intestinal worms. It is taken in small doses and sipped, the intensely bitter taste playing an important part in its therapeutic effect. In the past, wormwood was one of the main flavorings of vermouth (whose name derives from the German for wormwood).

This plant had strange powers. For example, Pliny tell us that the person who has wormwood in her shoe is protected from seasickness and sea monsters. In addition, the fellow who carries the twig of the herb is protected from fatigue. It was also believed that wormwood juice repelled bookworms and other nasty bugs. Therefore medieval scholars used to add this juice to their ink in order to protect their books. Others preferred rinsing vellum sheets with the same juice. People also thought that wormwood would turn moths away from wardrobes. It was also claimed that wormwood, if cultivated in the garden, would keep off all

kinds of snakes.

Medicinal use: Wormwood was an all-heal, but as the name hints the herb was used mainly to kill and repel all kinds of insects.

MAIN PROPERTIES: Aromatic bitter, stimulates secretion of bile,

anti-inflammatory, eliminates worms, eases stomach pains, mild antidepressant.

ANISE (Pimpinellaanisum)

The seeds of this annual are among the oldest spices known to man.

Anise is indigenous to Egypt, Greece and parts of the eastern Mediterranean. Widely cultivated commercially in many warm countries, particularly India, Turkey, south Mediterranean region, Mexico, and Chile.

Anise has been cultivated in Egypt and known to the Greeks, Romans and Arabs, who named the plant anysun. Since Antiquity it has been used as a flavouring spice in recipes and as a diuretic, to treat digestive problems and to relieve toothache. Anise seeds are known for their ability to reduce flatulence and colic, and to settle the digestion. They are commonly given to infants and children to relieve colic, and to people of all ages to ease nausea and indigestion. It also has an expectorant and antispasmodics action that is helpful in countering period pain, asthma, whooping cough and bronchitis. The mild hormonal action of anise seeds may explain its ability to increase breast-milk production and its reputation for easing childbirth and treating impotence and frigidity. Anise essential oil is used externally to treat lice and scabies.

The Ancient Egyptians and the Greeks used it for coughs and the Romans used it as a breath sweetener, to relieve colic and flatulence, as well as giddiness and nausea. They also considered that it stimulated mother's milk. The Romans believed it was an aphrodisiac. They used it in many of their cakes and candies.

In Roman times Anise was grown in Tuscany for culinary and digestive purposes. The seeds contain a volatile oil that aids the digestion of rich foods, and were an important ingredient of a spiced cake called "Mustaceum," eaten by the Romans as a digestive dessert at the end of an elaborate feast.

Aniseed was introduced to central Europe during the middle Ages. The plant appeared in Britain from the mid-sixteenth century but the seed ripened successfully only during very warm summers. Charlemagne cultivated it on his imperial farms. In medieval Europe, anise seeds were as used as mouse enticement bait, but the oil of the seeds was considered to be a pigeon poison. However, humans used the seeds in cakes and breads and the leaves in salads, as garnishes and when cooked as a vegetable. Anise was so popular in medieval England as a spice, medicine, and perfume that in 1305 King Edward I placed a special tax on it to raise money to repair London Bridge.

The early Arabic name was "Anysum" from which was derived the Greek "Anison" or "Anneson" and the Latin "Anisum." The Latin name "Pimpinella," derived from "Dipinella," meaning bi-pinnate. This refers to the form of the leaflets. Today, anise seeds are used as flavoring in cough medicines, in baked goods, candies and liqueurs. Anise seeds have been found (together with caraway seeds) to promote iron absorption. Certain insecticidal properties have also been noted..

Anise can be used as a treatment for coughs, bronchitis and asthma. The herb contains "Creosol" and "Alpha-pinene" that loosen bronchial secretions and make them easier to cough up. Another chemical called "Anethole" in Anise acts as a digestive aid.

Warning:

High doses of Anise oil, about several teaspoons, may cause nausea and vomiting. Anise and Star Anise should not be confused with the Japanese Anise that is poisonous. Women whose doctor advises her not to take the pill should counsel with their doctor about Anise estrogenic activity before using medicinal quantities of the herb.

MAIN PROPERTIES: Reduces colic and flatulence, promotes digestion, antispasmodic Alchemically, it belongs to Air

CUMIN (Cuminum cyminum)

Cumin is related to fennel and coriander and was much loved by the Romans. This annual is indigenous to the upper regions of the Nile and spread very early to India and China. It is mentioned in the Bible and was a plant in common use in the Dark and Middle Ages. In 1419 it was among the merchandise being taxed in the City of London. It is mentioned in many early books on Herbals. In Holland cheeses are sometimes flavored with cumin. Cumin seeds, which contain high amounts of carotene and iron, were traditionally used to help the digestive processes and be a tonic for the heart and nervous system. On a more practical note, the seeds appear to be useful for chronic diarrhea (probably because they have anthelmintic properties) and hoarseness of voice (probably because the seeds are mildly antiseptic). Cumin has the Gift of Retention. It is said that any object that carries cumin seeds cannot be stolen, and at one time, European wives fed their husbands cumin to keep them faithful. Cumin was also sprinkled on the floors of homes to ward off possession by evil spirits, and in northern Italy and Germany, the seeds were added to loaves of bread to keep forest sprites from stealing them.

Alchemically, it belongs to Fire

Mixing/recipes

It is possible to mix by original recipes. However in order to "perfect" the taste or rather to adjust the taste to our senses / like of taste, I find it better to adjust the mixing. After all, today we are after the taste rather than the medicinal effect of the ingredients. (With some exceptions for hangover remedies.) With the range of ingredients used during the mediaeval time, I don't see the need for other ingredients than proper period ingredients for schnapps. (Apart from my salt liquorice schnapps, but that's another story...)

At this stage, I have mostly worked with wormwood, cumin, fennel, aniseed, dill, lemon and black currants. High on my list to try next are cinnamon and cloves. I intend to make a liter of each ingredient that can then be used for quick mixing to find new tastes and to be able to provide "pure" test samples.

Akvavit

The traditional Akvavit is based on 4 ingredients, aniseed, cumin, fennel and dill seed.

How to make it:

Take a clean 1 liter bottle, add about a teaspoon of each ingredient. Fill the bottle with 40% clean alcohol. Let it sit for 3 to 4 days. Filter the schnapps, either with a sieve or with a coffee filter. I don't mind getting some "left overs" from the herbs so I'm using a sieve. If you like it a little sweeter, you can add one or two table spoons of icing sugar. I prefer the pure taste and don't sweeten it.

That's it, enjoy.

This schnapps is nice with rich food like ham, herring, salmon, cray fish or similar food.

Skåne

Skåne is based on wormwood.

This is probably one of the most easy schnappses to make.

How to make it:

Take a clean 1 liter bottle, add two twigs of wormwood (as long as the bottle). Fill the bottle with 40% clean alcohol. Let it sit between 1 and 5 days. The length depends on how strong/bitter you want it to be and how powerful the wormwood is. The wormwood that I'm growing in our garden in Auckland is quite strong and I left it for 4 days to make it bitter but still nice to drink. After having a schnapps glass of wormwood schnapps, I have a nice bitter aftertaste in my mouth for about a minute.

WARNING! Wormwood is poisonous. Do not make it TOO strong and don't drink too much of it, no more than a liter at a time. It does not take too much to kill the worms...

Lemon

Lemon based Schnapps is a nice and light drink that can be taken to sweet food like deserts.

How to make it:

Take a clean 1 liter bottle, add the zest from a lemon or two (depending on how strong a taste you want). I normally use the zest from one large lemon. Fill the bottle with 40% clean alcohol. Let it sit between 1 and 5 days. The length depends on how strong taste you want. The lemons we have in our garden are Villa Franca, and I leave it for a week before removing the zest.