

Natural Oils

Many woodworkers prefer natural oils to synthetic finishes even though they may provide less protection. **Jamie Bell** asks why and tests six types.



Easy to use and effective, it's no wonder that vegetable oils have been used to preserve wood for thousands of years. What is remarkable is that they continue to be one of the most popular finishes with woodworkers despite the wide range of superior modern finishes now available.

Last issue I tested ten Danish-type oils. These are a mixture of natural oils and man-made additives such as resins and driers. Although lacquers, polyurethanes and other synthetic finishes give better protection, natural oils are still favoured by many furniture makers, woodturners and woodcarvers. They are even being used for larger and more demanding projects such as flooring and decking.

A move towards more eco and user friendly materials may be partly the reason, but natural oil finishes have never gone completely out of fashion. Just as many woodworkers are attracted to the natural qualities of wood itself, it seems they can't resist the matt/satin look and silky feel that vegetable oils give. And with most natural oils selling for less than \$25/L, they don't mind the cost savings either.



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Natural Oils

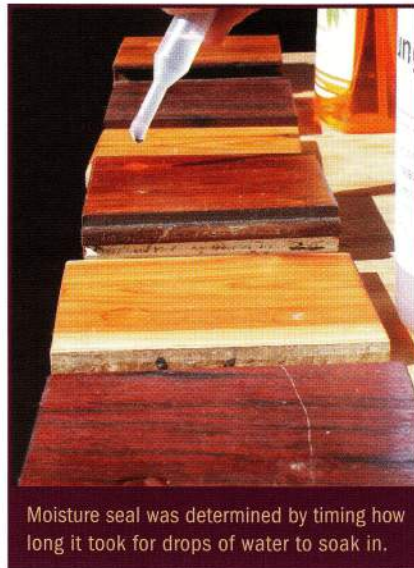
Boiled Linseed Oil Raw Linseed Oil Saligna Pure Tung Oil Howard Orange Oil Gilly Stephenson's Orange Oil Sifa Timber Furniture Oil

Viscosity	medium	medium	high	low	medium	medium
Colour	medium	dark	medium	orange	light	light
Sizes	500ml and up	500ml and up	500ml, 1L, 2L	118ml to 19L	100ml, 250ml, 1L, 2L	250ml, 1L
Cost 1L	\$9-\$13	\$9-\$13	\$19.50	\$55.25*	\$41.80	\$24.95

* Adjusted from \$105 for 1.9L



Each product was applied daily for up to a week on three different Australian woods.



Moisture seal was determined by timing how long it took for drops of water to soak in.



Using either a rag or a brush the oil is applied in a wipe-on, wipe-off process.

What's available

The most commonly used natural oils with woodworkers are linseed and tung oil. Although others including grape, walnut, sunflower, olive and peanut oil, are also available, they don't protect as well and are better suited to kitchen items such as cutting boards and utensils.

A couple of orange oil products, one made locally and the other in the USA, have gained a foothold in the market.

Also included in this review is a new oil finish from Sifa with origins in the treatment of saddles and other leather goods. Like all natural oils the six I tested were all very easy to use—basically wipe on and wipe off. They vary in colour from almost clear (*Sifa Timber Oil*) to bright orange (*Howard Orange Oil*), but only linseed oil darkens wood significantly.

I applied one coat of each oil every day for up to a week to three different Australian woods—cypress (*Callitris*), red ironbark

(*Eucalyptus*) and hoop pine (*Araucaria*). Depending on the oil and the wood this many coats may not be required. Howard orange oil for instance builds very quickly, and the cypress with its naturally high oil content needs only a couple of coats of any oil. None of the manufacturers suggest more than one or two coats are required, but so long as the wood kept absorbing the oil, I kept putting it on. The wood samples were sanded to 240grit, similar to new furniture.

Boiled linseed oil

Linseed oil is made from the seeds of the flax plant, which is grown for fibre. It's probably the most used natural oil finish for wood and it comes in two forms, raw and boiled. It's available everywhere and it's cheap—from about \$10 for one litre.

Boiled linseed oil used to be actually boiled to make it faster drying. The same result is now obtained by the addition of driers. To make it thicker it may have compressed air blown through it. Both boiled and raw linseed oil are best thinned 50/50 with turps for the first few coats so they soak in further. The idea is to saturate the timber with oil so it repels moisture in the same way as a naturally oily timber like teak does. A rustic item may be left like this with a very low-key matt finish, but further protection can be obtained by adding more coats until the oil starts building on the surface. Polishing this should give a satiny shine, depending on the timber. Bear in mind that linseed oil darkens wood more than other natural oils. Also be sure to wipe off excess boiled linseed oil after it has ceased soaking in, otherwise it will form a crust.

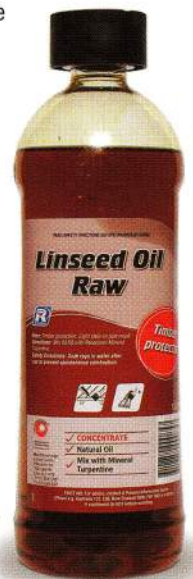


Raw linseed oil

For some of us the familiar fish-like smell of raw linseed oil prompts childhood memories of oiling a favourite cricket bat or other wooden item. It used to be slapped onto any outdoor timber surface that wasn't painted. This practice is considered to be a bit last century now, and better outdoor finishes that don't promote mildew, especially in humid climates, are available. Many of these still contain linseed oil.

When raw and boiled linseed oil are discussed the issue of drying usually comes up. Raw linseed oil is sometimes said to be a non-drying oil that always remains sticky. In fact like the boiled variety it does oxidise to form a hard skin, but more slowly.

So when would you use raw linseed oil on wood rather than boiled? And with its slightly inferior performance to boiled linseed oil and its slower drying time, why would you want to? Some people see the slower drying time as an advantage, as it allows more coats to be applied before a hard sheen is formed so more oil can be worked into the wood. Raw linseed oil does make the wood slightly darker than most boiled versions, so it could be used as a natural stain. It can be cheaper, but it can also be more expensive depending on where you buy it. Perhaps you have a large quantity that you feed to horses to make their coats glossy (a common use), and you don't want to waste money buying both types. Whatever your reason, you can be sure that your local hardware store will stock this enduring product.



Oils can be applied with a rag or brush, with excess wiped off after about half an hour, depending on the product—tung oil, for instance, will become too sticky if left this long. More oil may come to the surface after a few hours and this also needs to be wiped off before it dries on the surface. Oil soaked rags can self-ignite if left folded up, so after use they should be laid out to dry or soaked in water.

Suitable woods

The wood samples all came from salvaged materials (cypress weatherboards, red ironbark fencing and hoop pine floorboards) as I felt low shine oil finishes were appropriate for recycled timbers like these. Of course they are equally well suited to new wood, although it can be hard to resist a shinier or fuller finish on this.

Using three quite different woods demonstrated what woods oil finishes work best on. The old recycled hoop pine was probably too dry as the oils disappeared into it immediately and in some instances were still doing so after seven days of

application. The salvaged red ironbark fencing timber with its black weather lines came up well with an even flat finish that was easy to achieve. The cypress pine was a revelation; with its close grain and oily texture it had a good lustre after just a few coats of oil. I have recently used lacquer and shellac on furniture made from this same timber, and in both cases its abundant knots and swirly grain almost stood out too much with these 'high' finishes. A low key oil finish tones it down nicely.

Tests

I left the wood samples to dry for a week before seeing how they stood up to a few tests. After this time none had dried out completely and all had a pleasing soft matt or satin appearance.

To determine what sort of moisture seal the oils provided I timed how long it took a few drops of water to soak in to each one. The boiled linseed oil, the tung oil and the two orange oils performed best. After 2-1/2 to three hours the drops remained on the surface of the wood sam-

ples coated with these oils, even on the very absorbent hoop pine. The Sifa oil provided slightly less moisture resistance (two to 2-1/2 hours) and the raw linseed oil less again (1-1/2 to two hours).

No matter which oil finish you use and how much you put on, it's unrealistic to expect a natural oil to provide the same protection as a lacquer. However, some natural oil finishes protect wood just as well as Danish oils, and like Danish oils all natural oils can be repaired or revived simply by adding another coat.

Drops of red wine were applied to each wood sample and left to dry. I also lightly scratched each sample before rubbing another coat of oil in to see what stains or marks remained. The red wine marks were easily removed from all but the raw linseed oiled pine sample. The scratch marks were effectively disguised on all the wood samples.

These simple tests were far from comprehensive but confirmed that natural oils can withstand light mistreatment and are easily revived. They are especially well suited to simple furniture pieces, such

Pure tung oil

Tung oil is extracted from the nuts of the tung tree of China where it has been used as a wood preservative for a very long time indeed. It has a pleasant nutty smell and is often compared and usually considered superior to boiled linseed oil. Like boiled linseed oil it also has driers added to it to shorten drying time. It showed similar moisture and stain resisting qualities in the tests I did, but using the two oils over the years I have found it gives a longer lasting, harder wearing finish. Being thicker it also builds well. You might want to thin the first coat with turps to drive it further into the wood. It's a sticky oil and similar to some Danish oils to apply, tending to grab and requiring more oil to soften it when this happens.

Tung oil may be labelled as pure, raw, polymerised or tung oil finish. The latter is usually an oil/polyurethane or similar mix and not a natural oil product. Polymerised tung oil is heat treated to make it faster drying and, reputedly, harder wearing. Raw tung oil should be tung oil without driers. Pure tung oil is tung oil plus driers.

There is no reason why tung oil cannot be mixed with other oils if you believe this will give better results. Like the tung oil finish mentioned above, it can also be mixed with synthetic finishes. US furniture maker Sam Maloof finishes his sculptural rocking chairs with three coats of equal parts raw tung oil, boiled linseed oil, and urethane semi-gloss varnish. He says he prefers raw tung oil because it does not gel and has a longer shelf life than pure tung oil, and the boiled linseed oil has enough driers to dry both oils. (He then rubs in three coats of equal parts boiled linseed oil, raw tung oil and shredded beeswax).

Howard Orange Oil

This bright orange citrus oil looks and smells good enough to drink. Its made from compressed orange peels in California and has been selling in Australia since the early 1990s. According to the Australian importers the making process involves heating, cooling and filtering the cold-pressed orange peel oil. A small amount of mineral oil (five per cent of the mixture) is then added to modify the citric acid in the orange oil.

It can be used as an effective furniture oil on bare timber in the same way linseed and tung oils are used, but is also marketed as a cleaner and polisher for French polished furniture. Used in this way over shellac I found it an effective cleaner that leaves a good hard shine which doesn't mark easily. The spray bottle is also very convenient.

At \$31.50 for this 473ml spray bottle it is not cheap. Even the 19L containers cost the equivalent of \$34/L. It would be interesting to know what buyers of these quantities use the oil for; perhaps it is thinned with more mineral oil to make it a lower priced finish for furniture, woodturnings or carvings. Its slippery finish would rule it out as a flooring oil.

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as country or rustic styles, that are enhanced rather than spoilt by the rigors of everyday use. An annual re-oiling will not only disguise the knocks and scratches but also build up over time to create an ever improving patina.

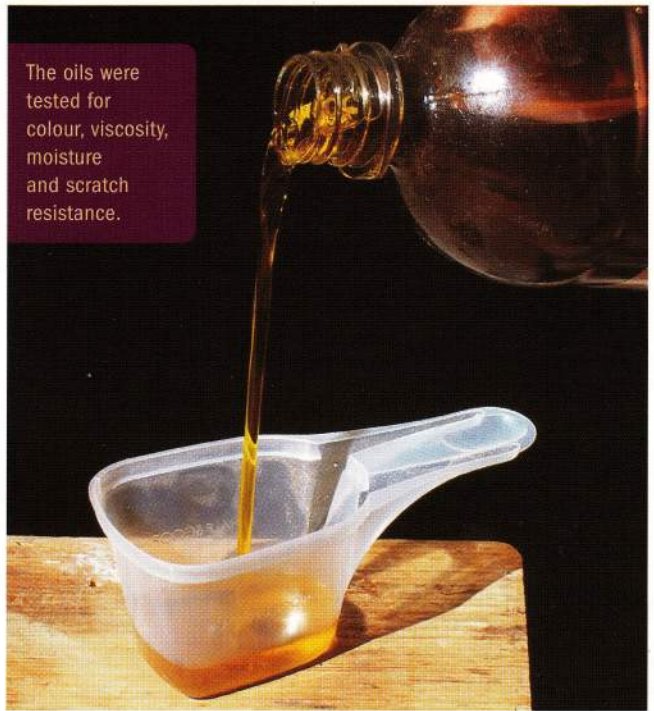
Everlasting oils

Most natural oils smell good and are safe to use. The pungent aroma of oils like tung and linseed please the senses of smell, touch and sight when working them into wood. The downsides are few, and even the significant amount of elbow grease often needed to get a really good oiled finish is a good way to warm up on a cold winter morning.

For a tough oil finish on furniture it's hard to go past tung oil, which I believe gives better protection than boiled linseed oil. The slower drying qualities of raw linseed oil appeal to those who want a deep soaking oil. The orange oils add a bit of shine and are an alternative to wax when maintaining wood that has been shellacked or oiled. With its foodsafe qualities the Sifa oil may find its niche preserving and enhancing kitchen ware. So which oil is best? It all depends on what you are oiling.

Vegetable oils did well in my tests but more significantly they have stood the test of time. Woodworkers have been using them for about as long as wood has been worked. So long as nature provides fruit and seeds the appealing natural qualities and effectiveness of natural oils in enhancing and protecting wood should continue to tempt us.

Jamie Bell is sub-editor for AWR and is also a furniture maker and restorer in Cooran, Qld.



The oils were tested for colour, viscosity, moisture and scratch resistance.



Oil soaked rags can self-ignite if left folded up, so after use they should be laid out to dry or soaked in water.

Gilly Stephenson's Orange Oil

This Australian made oil contains 25 per cent orange oil extracted from orange peels and 75 per cent mineral oil. I found it could be used as an oil finish on bare timber but is probably more suitable for cleaning previously finished (oiled or shellacked) furniture. Non-toxic, it's also suitable for maintaining kitchen items such as bowls and chopping boards.

Both Howard orange oil and Gilly Stephenson's orange oil need to be used sparingly on very dry or porous woods. Unlike tung and linseed oils, they seem to protect wood more by sealing the surface rather than by saturation. No driers are added to them, and even after one week both oils were still rising wet to the surface of the pine timber sample to which I had applied numerous (too many for orange oil) coats. There were no such problems on the tight-grained cypress. Both products might also make good maintenance oils for items previously treated with tung or linseed oil.

More information from (08) 9295 1973.



Sifa Timber Furniture Oil

Known more as makers of steel wool, the NSW based company Sifa has recently released three wood finishing products including a timber furniture oil. It is a pale coloured oil and is said to be suitable for indoor and outdoor use. According to the Material Safety Data Sheet, the vegetable oils in it are commonly used in the food industry. Sifa say one of these natural oils (extracted from bush seeds) was used for many years to maintain leather goods such as saddles and bridles in rural Australia. The oil has a faint smell of gum turpentine.

It contains no linseed oil and no driers and is soon to carry a foodsafe emblem. As a treatment for furniture I found it had slightly lower moisture repelling qualities than most of the other oils. Having no driers it is not sticky and very easy to use. Sifa's timber furniture polish (a soft beeswax mixture) can be used over the top of the oil on furniture to improve moisture resistance.

Call (02) 9457 8040 for stockists.

