



**Grouptest**

# Eco-friendly chain lubes

Oiling your chain doesn't have to mean using petrochemicals and PTFEs. **Dan Joyce** tests four biodegradable alternatives



**DAN JOYCE**

While Dan is fairly lax about cleaning his bikes, all of them have quiet, well-oiled drivetrains

**B**icycles use a minuscule fraction of the fossil fuels required by cars, so they're already environmentally friendly. But every little helps. If you can oil your bike with an eco-lube that doesn't include petroleum products or forever chemicals, while still getting comparable performance, why wouldn't you?

For me, there's an extra consideration: my office is also my workshop so I'm surrounded by bikes. I don't want to sit here all day inhaling harmful chemicals. Just have a read of the labels on non-eco lubes: 'dangerous to the environment'; 'may cause drowsiness or dizziness'; 'may cause skin cracking'; and so on. Eco lubes avoid these issues. Mostly. Some greenwashing does go on: a product that's only 60% biodegradable – and which contains petrochemicals – can be described as biodegradable.

Even the greenest lubricant still has to work properly. I primarily tested these lubes on my mountain bike over the winter because that's one of the worst-case scenarios for chains. (It's also why there are only wet lubes here: wax lubes are not durable enough for such conditions.)

In order to test the lubes in identical conditions, I split a new chain into four with four quick links – one of which was black, so I'd know where the start was – then used a specific lube for each section. There was inevitable cross contamination but I hoped to see some differences – and did. I also used the lubes non-systematically on other bikes.

## Details

### WHAT TO LOOK FOR

#### 1 Eco credentials

Read the label (or website description) carefully to see what it says – and doesn't say. Look for 'fully biodegradable', 'no PTFEs' and '100% plant based'. What about the packaging? Is it recycled plastic? (Prevented Ocean Plastic is recycled plastic that's been collected from coastal areas at risk of ocean plastic pollution.)

#### 2 Viscosity

The thickness and stickiness of the lube. A viscous oil sticks to the chain better and so doesn't drip or wash off so easily. However, it may also accumulate grime quicker (which wears the chain faster), and it may have slightly more friction. Track cyclists don't need viscous oils; UK mountain bikers absolutely do.

#### 3 Efficiency

Lubricants reduce friction by penetrating into the rollers, enabling the chain to remain flexible and nearly silent. A well-lubricated chain can transmit power with 98.5% efficiency, and the most expensive (but non-eco) lubes really can save you a few Watts. Non-racers without power meters can ignore this; just keep the chain lubed and relatively clean. (Test: can you see the letters on the chain links?)

#### 4 Value

All prices shown are for 100ml bottles. Value isn't as simple as pence per millilitre. A lube that's twice the price but lasts twice as long per application is equally good value. Some lubes list a mileage per application. This is an estimate; for winter mountain biking it will be way, way off. It is, however, an indication of the lube's longevity.



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