



Wright's Outdoor Equipment Centre

**CALL US: 0800 806 608**

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*Making your outdoors easy since 1969*

## Does Gasoline Have a Shelf Life? Yes, it sure does!

New Zealand Gasoline has an estimated shelf life (or best before date) of 2 to 3 months, which may seem surprising considering it's derived from oil that's remained in the ground for millions of years. But that's due to how gasoline is made: refineries turn heavy crude oil into lighter gasoline better suited for engines using a process that involves heating the oil in a furnace until it vaporizes. Over time, oxidation and evaporation take their toll on gasoline's desirable properties, making it no good for engines anymore. This can be affected by climatic conditions as well. Given the unstable nature of the gasoline mixture it keeps wanting to revert back to its constituent ingredients (i.e. rotten dinosaurs etc) so treat it like milk with a best before time period.

Now, consider that 100% of New Zealand supplied fuels come from overseas production (given that the NZ refinery is now shut down) we will need to factor in that the fuel can be a month old before it arrives in New Zealand. Plus considering the fact that most homeowners machinery can only be used seasonally, the fuel you purchase can date quickly. Often you will put your lawn mowers or equipment into storage for a few months once the weather turns cold or wet, or you will fill up a full size fuel container of fuel, then it's not surprising that you don't turn over the petrol quick enough & often find issues with bad gas when it comes time to put those mowers back out to deal with the pasture.



For example – if you mow your lawns on average once every 2 weeks (which can be difficult given Auckland weather) & the mowing time is, say ½ an hour, then an average fuel consumption per mow will be approximately 300-450ml of fuel. So, therefore if you fill up your 5L fuel can the fuel will be getting stale by around about the time you still have more than 50% of your fuel still left. A small petrol grass trimmer uses even less – maybe only a consumption of 100-150ml per use?

## How Can Bad Gas Affect My Powered Equipment?

Your lawn mower may still run on old gasoline, but you will notice it's not running as well, missing, coughing or low on power. In fact, the oxidation of gasoline over time can result in clogged gas lines and filters, and it can wreak havoc on your fuel system. As a result, running your mower on bad gas may work for a little while, but you risk doing permanent damage to your mower and may need to replace it early, but usually before that stage its poor running, or not starting, followed by deterioration of components. The usual components are carburettor gaskets, diaphragms, seals, fuel lines, fuel filters, fuel pumps, primers, needle valves, fuel caps, fuel control modules etc.



## Our 10 tips & recommendations to reduce fuel problems –

- **1** - Only purchase enough petrol to last for a month or so (maybe 2 at most) – little & often is better & try to take note of the date you purchased it so as to keep a more accurate track of time. When in doubt just pour what's left over into your petrol powered car.
- **2** - Don't leave fuel in your machinery for long periods of time – its best to run them completely dry when finished using them – especially in machinery that is only used seasonally, more so in items like generators that may only be used in an emergency.
- **3** - If possible, start & run your machinery every few weeks. This will help circulate fresh fuel through the system & helps to condition the fuel system components
- **4** - Don't use Biofuel blended petrol's (ethanol/methanol) in powered equipment as ethanol fuels have an even shorter shelf life, plus can also cause undue deterioration to some fuel system components. If you are not sure if your regular fuel is a Biofuel blended petrol or not, it will usually state on the fuel pump "may not be suitable for all engine types" – this is the usual give away.
- **5** - Take care with your fuel storage – hot/humid sheds etc are to be avoided, also avoid damp environments – i.e. don't store your mower under the house – it may be out of the direct rain, but its still subject to condensation & atmospheric moisture. We hear so often of mowers stored "under the deck" & folks wonder why their fuel system is full of water.
- **6** - Use a filter & funnel that is CLEAN – you will be surprised what gets washed into your fuel system – we have seen it all: bugs, dust, dirt, grass, water, plastic, clippings etc.
- **7** - As engines become more & more "clean air" compliant fuel storage as an issue is coming more to the fore, so we need to up our game on keeping the fuel clean & fresh. To be able to produce cleaner burning, lower emissions, improved fuel economy engines it means manufacturers have been mandated to produce fuel system components that are more finely jetted & controlled – this has a wonderful effect on improved performance on the machinery, but you can no longer use old, ranky gasoline with water floating about in it, just because that's what you used to do 😊
- **8** - Never use the bottom ½ inch of fuel in your fuel can – that's where the water will settle, plus dirt & other sediment will most likely be at the bottom. This will sure as eggs block your carburettor & fuel system
- **9** - OUR SUGGESTION – when you get your mower or equipment serviced – "service" your fuel container at the same time – i.e. responsibly empty out any residual fuel (can be used in your car fine) & make sure there is not dirt/water etc in the bottom
- **10** - You can certainly add a fuel stabilizer agent to your fuel to slow down the oxidation process. This is common in the boating industry as well – but be aware these additives are quite costly in relation to the fuel cost itself. For 2 stroke machinery some 2 stroke oils (ECHO POWERBLEND) have this agent already in the oil & we can verify will improve fuel shelf life.

