



Sampling and Onsite Testing of Fuel From a Generator Diesel Tank

1: Pull sample from tank bottom using a professional "Bacon-Bomb Sampler" (google it) or a small fuel transfer pump (available at any auto parts store).

2: Visually inspect your sample by swirling it in a beaker or mason jar. Look for water and dirt fall out as you swirl.

- If you see a few drops of water form, you've got a water problem.
- If you are seeing coffee ground type material in the fuel, that's biological growth.
- If an algal or gunk type slime appears, that's also biological growth.
- If your off-road diesel is clear and bright like cranberry juice, it is in good shape.
- If your fuel is a darker cherry color (yet still clear), your fuel is aging and you should consider swapping or burning fuel off in the next year.
- If your fuel is dark in color (showing that it is aging in the tank), you can send that sample to a fuel testing lab (your fuel vendor should have a recommendation or do it for free for you) to test for:
 - Oxidative stability (if it's aging out of specification);
 - Biological growth (if bugs are growing in it);
 - Water content (indicating a puddle someplace in the tank causing higher water content in the fuel); and
 - Dirt content of the fuel (if there is dirt, there is probably biological growth or some other problem).

How To Test Your Diesel for Biological Growth Onsite

Take a fuel sample that appears to be in great condition and set it aside in a warm dark place for a month (daylight kills most biological growth in fuel, though it ages diesel in other ways). After 30 days:

- If a film or layer of darker color is appearing in the fuel, this is biological growth occurring.
- If you see nothing and want to experiment further, add a slight amount of water to this sample, shake it up, and put it back in a warm dark place. Check again after another 30 days:
 - If there is a a new darker color layer on the surface (where the water contacts the fuel), that's what is growing in your tank.
 - If nothing grows, your fuel is safely stabilized for storage this year (even if water is finding its way into your fuel tank, the fuel is safe and will be ready to start).

Note: Do not leave water in your tank, even if the fuel looks good. Eventually it will be a major problem and something will grow. If you are putting biocide in your tank regularly and there is an environment for growth, something resistant to that biocide will take root and you WILL NOT be able to get it out of the tank without serious effort.

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