

Are Slurry Bugs good for your soil and grass?



While farmers accept that Slurry Bugs eat pond crust, they often ask about their effect on pasture.

Nitrogen Science 101

Plants need *nitrogen*, and to thrive they need the **right amount** of it. Too much *nitrogen* reduces other nutrients and leaves plants susceptible to pests and disease. Too little inhibits cellular health and starves the plants of the nutrients needed for growth.

The good news is, there's plenty of it around; 78% of earth's atmosphere is *nitrogen*. But while plants are surrounded by *nitrogen*, they have no access to it in its *atmospheric form* – **they cannot utilise it**.

For plants to use nitrogen, a process called *Natural Fixation* has to occur first. In this process, micro-organisms convert gaseous nitrogen into *nitrate* and *ammonium*, compounds which can be used by plants.

Unusable N in the effluent

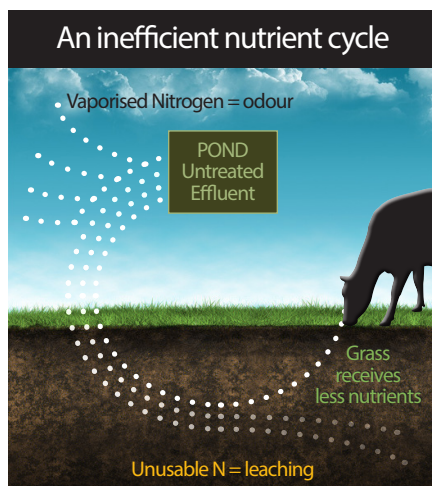
The typical effluent pond is rich in *nitrogen*. While that *sounds* promising, the *anaerobic state* of these ponds means that a lot of this nitrogen is in a form that cannot be used by plants – *ammonia*, *nitrite*, and *organic forms of nitrogen*.

The *anaerobic bacteria* that cause **pond crusting** cannot convert this **unavailable nitrogen** into the *nitrate* and *ammonium ions* that plants *can* absorb.

This presents farmers with several problems.

Problem #1: The grass is adversely affected

Because much of the nitrogen in untreated effluent cannot be utilised by plants, spreading it onto pasture will have a reduced effect in terms of grass growth and health. Yes, the grass will certainly grow from the spread of such effluent, but it will not flourish if it cannot gain access to the necessary nutrients.



Problem #2: Leaching

Soil cannot hold onto excess nitrate. Any *unused nitrate* moves out of the soil by way of leaching through runoff.

Problem #3: Strong odour

To survive, *anaerobic bacteria* strip oxygen off various compounds. This chemical 'theft' results in new gaseous compounds which we recognise as **pond odour**.

slurrybugs™

Slurry Bugs are *aerobic bacteria* that need both oxygen and light to digest the organic material in the effluent. They convert the *organic nitrogen* and *ammonia* into *ammonium* and *nitrate* by a process called *mineralisation*. **This gives the farmer significant advantages:**

Three good results

1. Far better fertiliser

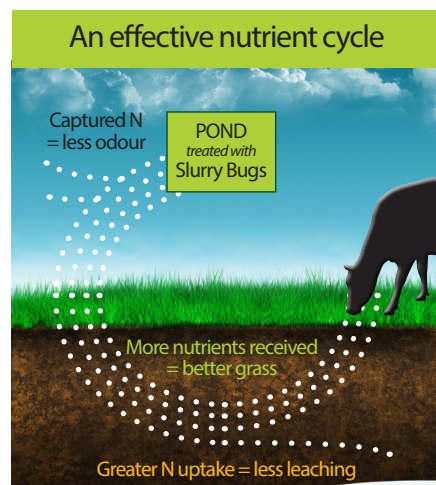
With more *ammonium* and *nitrate* present, your effluent becomes a **nutrient-rich fertiliser**. With these nutrients now converted by the **Slurry Bugs** into *inorganic forms*, they can be absorbed by the grass.

2. Far less leaching.

Slurry Bugs improve soil health by increasing the biomass and activity of the soil's microbiology. This encourages better root growth enabling plants to draw more nutrients out of the soil. When more nitrate is utilized by the plant, less is flushed away in the form of leaching.

3. Far less odour.

Because most of the ammonia is *converted* into a plant-friendly form, less is oxidised and lost into the atmosphere as odour.



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