



All to pot!

One would not think about putting their compost heap on his or her dock. But what's in a nice flower pot?

Shoreline vegetation prevents soil nutrients from entering lakes and rivers.

Soil nutrients are nitrogen, phosphorus and potassium, just like the three values indicated on bags of potting, manure and garden soil. What would these nutrients do in the lake? Exactly what they do to your flowering arrangements: encourage the growth of the aquatic plants, but especially that of microscopic algae, responsible for the decrease of the clarity of the water.

Developing a well-fertilized garden directly on the shoreline does not seem like a very good idea, but what about pretty flower pots? You tell yourself: it's so small, it is contained, it certainly cannot make a difference!

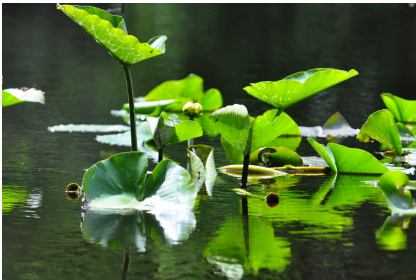
In a very big planter (55 cm in diameter and 40 cm in height) you could fill up to 3 bags of 20 liters of potting soil. But for simplicity consider a single bag of 30 kg of potting soil. And let's say we also ignore the addition of fertilizer every 2-4 weeks, recommended by the salesperson to maintain optimum bloom ...

Out of curiosity, I calculated the potential for additional contamination provided by planters on a dock or boat house above a lake.

In 30 kg of compost, 15, 15, 15, the first number (, 15) is the nitrogen content, a 30 kg bag contains 0.15%, and 0.15% of 30 kg equals 0.045 kg.

0.045 kg of nitrogen in 30 kg of potting soil
0.0015 kg of nitrogen in 1 kg of potting soil
0.0015 kg of nitrogen = 1.5 g of nitrogen

We thus find 1.5 g of nitrogen in 1 kg of potting soil. Same thing for phosphorus and potassium. But 1.5 g seems very little considering the size of the lake doesn't it?



The risk with this flower arrangement on a dock is that with each rain, some of the soil's fertilizer contained in the pot risks draining directly into the lake. But for so little, what's the problem?

Here is a surprising comparison:

In 1 liter of city sewage, we find on average around 30 milligrams of nitrogen (all pee / poo combined, including the water from toilet, shower, clothes washer, dishwasher etc) .

30 mg = 0.030 g

There is only 0.030 g of nitrogen in 1 liter of municipal sewage (non-concentrated and untreated), while there is 1.50 g of this same element in a single kg of potting soil.

A single kilogram of potting soil represents the same potential pollution equivalent as 50 liters of raw sewage!!!

A few planters (~ 30 kg of potting soil) would have the same fertilizing potential as 1,500 liters tank of city sewage?

At the lake, think of it!

Anne Letourneau
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References :

<https://www.lapausejardin.fr/nos-solutions/calculateur-terreau>

<http://m.espacepourlavie.ca/signification-des-3-chiffres-dun-engrais>

http://www.bucksuzuki.org/images/uploads/docs/sewage_report_card_III.pdf

<https://www.quintewest.ca/en/resources/Trenton-WWTP-2016-Annual-Report.pdf>

<http://www.fao.org/docrep/t0551e/t0551e03.htm>

<http://www.thewatertreatments.com/wastewater-sewage-treatment/typical-characteristics-wastewater/>

https://www.brant.ca/en/invest-in-brant/resources/Area_Studies_Documentation/St._george/SchedF_SamplingMonitoringProgram_Jan-12.pdf