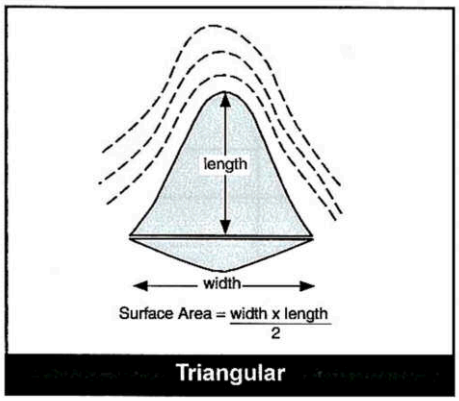
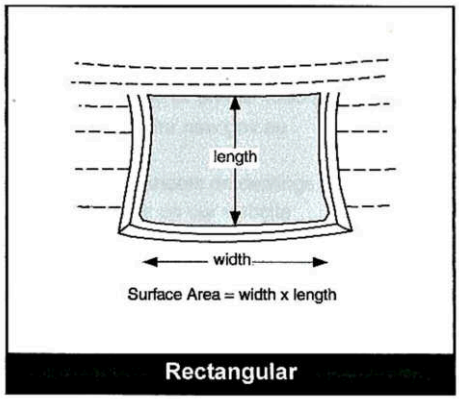
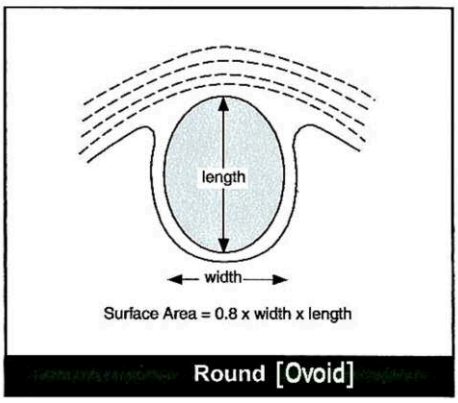
From Guesstimate to Estimate

One Way to Size an Effluent Pond







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One of the necessary skills involved in advising on the use of BioAg Digest-it® for Dairies (Digest-it) is in making the decision on how much Digest-it to add to the effluent pond as the 'initial charge'.

The recommended initial charge volumes given in the BioAg dosing matrix are based on three main parameters.

These are:

1. Capacity of effluent pond,
2. Observed condition of pond
3. Any solids separation device in the system.

Step 1 – Capacity of the Effluent Pond.
The first variable is pond surface area and the diagrams opposite give formulae to determine the surface area of most of the ponds that we commonly come across. Most ponds will, in fact, be approximately rectangular. All measurements should be in metres.
The capacity (volume) of the pond is the surface area multiplied by the depth. However we also need a 'fudge factor' to take into account the slope of the pond walls. This fudge factor is a multiplier of 0.4

Volume (m^3) = surface area x depth x 0.4

Volume (ML) = (surface area x depth x 0.4) ÷ 1000

From a mathematical standpoint, calculate the volume in cubic metres first and then convert to megalitres. The nominal depth of the ponds listed in the dosing matrix is 3 metres.

Steps 2 and 3 have been described on the BioAg dosing matrix sheets.

If you have any questions please contact – Peter Stoneman on 02 6959 9911