



Application Guide

Water Treatment for Farms

Introduction

Environmental Warehouse has a range of products that are suitable for removing sediment from water that is to be used for drinking water and for non-drinking water applications around the home on farms and rural properties.

Treatment Methods

Usually a 2 tank system is best. Most people use either 10,000 L or 20,000 L tanks.

1. Determine the type of chemical to use

The first time a treatment is undertaken, the type of chemical best suited to your situation needs to be determined.

This is best determined by undertaking "jar tests" on water samples using several water treatment chemicals. There are a wide variety of soil and sediment types and significant variations in water chemistry across Australia. These have a significant impact on selecting the most appropriate water clarification chemical for an application. Once the best chemical is determined for a particular situation, it generally doesn't change over time.

Some basic jar tests will take about 1 hour to undertake, and will save a lot of time later, particularly if the wrong product is used or applied at the wrong rates. The other benefit of undertaking the "jar tests" is that you become familiar with the process of water clarification and can easily monitor the full tank treatments and make appropriate adjustments to mixing conditions and application rates to ensure good water clarification each time.

The products to consider for testing are:

A. DamClear Floc Blocs AN1 and AN2

These products are polymer flocculants that give fast solids removal in most applications, and require very low application rates of just a few milligrams per litre of water. They have minimal affect on treated water quality such as salinity and pH.

However, sometimes they are not effective if the clays are very fine and are very slow to naturally clarify.

- **DamClear Floc Bloc AN1** is best suited to water that has low salinity and pH in the range of 7-9.
- **DamClear Floc Bloc AN2** is best suited to water that has low-medium salinity and pH in the range of 6-7.

B. DamClear Clarity Aid PD

This product also gives relatively fast solids removal rates in most applications, and requires only low application rates of about 1- 20 milligrams per litre of water. It has minimal affect on treated water quality such as salinity and pH. Easy to apply to tank treatment process.

C. DamClear Clarity Aid CL

This product is good for particularly difficult to treat clays and very fine clays, that are generally very stable if untreated. Application rates range from 50 - 200 milligrams per litre. Easy to apply to tank treatment process.

2. Determine how much chemical to use

Once the most appropriate chemical is selected, the application rate required to clarify the water needs to be established.

Even though the chemical type for treatment has been established, the other variables that occur are particle size and solids concentration. These will vary over time. These are the 2 variables that determine how much chemical is required to clarify a tank of water. If the application rate is too low, than the water may not clarify at all, and it is always best to avoid application rates that are too high.

Using the selected chemical, add various amounts to 500 ml samples in clear bottles, and monitor and record the affect. The amount of chemical that gives good water clarity, without overdosing is the application rate to apply to the tank.



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3. Chemical addition

The chemical best suited to the application and the appropriate quantity are added to the first tank during a filling stage. The water is left for a few hours or overnight, undisturbed, to allow the solids to settle and thicken on the bottom of the tank.

4. Clean water pump out

Clean water is then transferred to the second tank, which acts as the clean water storage tank. The bottom outlet of the first tank can not be used as it will be contaminated with settled solids. Pumping from just under the surface using a float to hold the suction hose in place is the best option to minimise disturbance of the settled solids.

5. Water disinfection

If disinfection of the water is required, than this should be added during the filling cycle of the second tank.

6. Settled solids

Once the clean water is transferred from the first tank, the settled solids in the first tank should be washed out via the bottom drain.

Pack Sizes and Application Rates

- **DamClear Floc Bloc AN1 & AN2 puck, 100g**
Application Rates:
1 x 100 gram puck will treat about 20-30,000 Litres of water. Supplied in packs of 10
- **DamClear Clarity Aid PD**
Application Rates:
1 x 1 kg bottle will treat between 100-200,000 Litres of water.

1 x 5 kg bottle will treat between 500-1,000,000 Litres of water.
- **DamClear Clarity Aid CL**
Application Rates:
1 x 5 kg bottle will treat between 30-40,000 Litres of water.

1 x 20 kg drum should treat between 130-180,000 Litres of water.