

aquaticus

Agri (Pty) Ltd

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a unique cleaner for drippers, micro's, sand filters

INTRODUCTION

- References to blocked drippers are normally misguided. All emitters become clogged and over a period without proper maintenance the mechanisms designed to evenly distribute the water flow become impaired, resulting in some emitters delivering much more water than designed to i.e. up to 100% more and other emitters much less i.e. zero delivery. The unevenness of the distribution is normally more costly to the farmer than the “blocked dripper” which always elicits an immediate management response.
- Pure water is a misnomer and in irrigation terms does not exist. Water always has a history and water always carries its history wherever it goes. Rainwater falling through the air collects impurities from the air as it falls, borehole water minerals as it seeps into the underground and dams, rivers and streams come into contact with any number of substances, man made and other. These impurities carried by the water either as organic or inorganic material all contrive to the clogging of the emitters.
- Unless properly understood and managed these impurities will end up as sediment in the emitters or food for the organisms which grow and multiply to foul the emitters. Melting snow would probably be the purest form of water, an unknown luxury to most irrigation farmers.
- As 97% of the chemical requirements of most plants are H_2O commercial agriculture must rely on the even, timorous and reliable supply of these elements as one of the more important management functions.

AGRI-TREAT®300

A revolutionary water cleaner
for dripper lines, micro's and all
related irrigation systems.



INFORMATION

- This is a sodium bromide based product with an active ingredient of stabilized hyperbromus acid. This product owes its origin to the potable water (drinking water) industry and meets the requirements of the E.P.A. (Environmental Protection Agency) and the F.D.A. (Food and Drug Administration) for potable water.

Effect on Plants

- The product is applied at very low concentrations of active ingredient. No detrimental effects have been recorded when used as recommended.

- Can be used on:

- Irrigation Systems
- Dripper Lines
- Micro's
- Sand filters
- Pipes
- Reservoirs



AGRI-TREAT® 300 ARE EFFECTIVE ON

- Viruses
- Bacteria
- Parasites
- Algae
- Fungus
- Iron Bacteria
- Protozoa
- Sists
- Cholera
- Cryptosporidium
- Giardia
- Legionella
- E-coli
- Coliphange
- Polio

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AGRI-TREAT® 300 Compatible with Mycorrhizae

Test done by Biocult LAB, Somerset West

The AGRI-TREAT® 300 will reduce the onset of biofilm formations within the irrigation pipes and the growth of algae on the spray nozzles.

Mycorrhizae are cultivated in the tunnels, and therefore a compatibility test was required. As per procedure, the compatibility test was performed using Trichoderma.

The different Trichoderma strains were cultivated on the same petri dishes, and was incubated at 27°C for 7 days. The AGRI-TREAT® 300, at a dosage of 500ml/10000L water, was aliquoted into the centre of the Trichoderma cultivated plates and incubated in the dark for a further 24 hours.

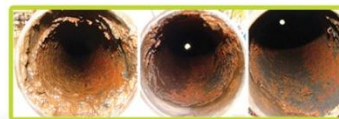
No negative effect was observed on the Trichoderma.

Being more sensitive than Mycorrhiza, it is safely concluded that AGRI-TREAT® 300 can be used in the irrigations system for the growth of Mycorrhizae.

- Global gap accreditation
- Patented in more than 120 countries
- Environmentally friendly
- Fast micro-organism kill action
- Economical and easy to apply
- Stable and effective over a wide pH range
- Easy to transport
- Excellent results on Polio, Eccoli, Cholera, Bilharzia, Giardia, Cryptosporidium, Legionella etc.
- Minimum corrosion to systems
- No long-term health risks
- A product fit for the 21st century

Test results after one treatment where algae and bacteria were present:

Peroxide	29,2% improvement
Chlorine Dioxide	97,4% improvement
Agri-Treat® 300	98,2% improvement



METHOD OF USE:

DRIP:

Apply 500ml AGRI-TREAT® 300 per 10m³ of water per hour evenly into the irrigation flow for one hour.

If point of application into the irrigation system is in front of the sand filters it is recommended to increase the dosage by 10%. If ring filters or automatic screen filters are used it is not necessary to increase the dosage. It is recommended that the laterals be flushed after the application of AGRI-TREAT® 300.

MICRO'S:

Apply 500ml AGRI-TREAT® 300 per hectare the last 20 minutes of the last hour of irrigation. Leave for 24 hours & rinse before the next irrigation.

DOSAGE: All crops 500ml per 10m³ of water per hour.

EXAMPLE:

Citrus: 5m³ of water per hour = 250ml AGRI-TREAT® 300 per hectare.

Sugare Cane: 10m³ of water per hour = 500ml AGRI-TREAT® 300 per hectare.

Grapes: 13m³ of water per hour = 650ml AGRI-TREAT® 300 per hectare.



AGENT DETAILS:

ADVANTAGES OF AGRI-TREAT®300

- These products are designed specifically for the irrigation industry.
- They are not pH sensitive.
- Very low levels of active ingredient are applied i.e. less than 0.2 ppm which is destroyed rapidly on contact with sunlight, soil etc.
- Even at high concentrations this product has no or little effect on soil organisms.
- The product is safe and environmentally friendly.
- Does not damage the compensating membrane when used according to manufacturer's recommendations.
- AGRI-TREAT®300 does not degrade until it comes into contact with sunlight or soil so the dose applied stays reasonably constant until the last emitter, ensuring cleaning of the emitters at the furthest point in the land.

ADVANTAGES,

- Fast micro-organism kill action.
- Easy to transport
- Excellent results on Polio, E-coli, Cholera, Bilharzia, Giardia, Cryptosporidium, Legionella ens
- Minimum corrosion to systems.
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- A product for the 21st century.

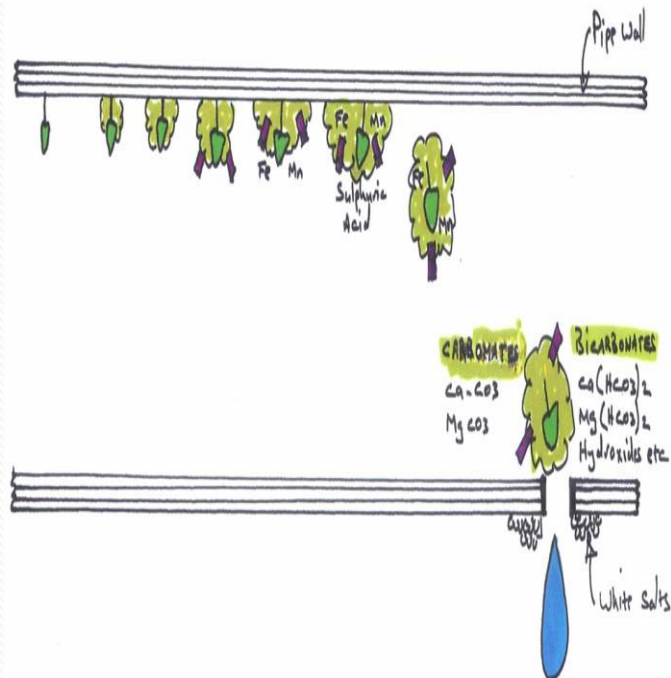
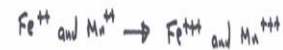


DEVELOPMENT OF BACTERIA

DEVELOPMENT OF BACTERIAL SLIMES IN A DRIPPER PIPE

Pseudomonas

Bacillus



ADMINISTERING AGRI-TREAT®300 (dripper lines)

- **Dripper Lines:**
- **Corrective application:** Recommended for heavily blocked pipes and drippers.
- **Step 1:** Stop irrigation
- **Step 2:** Rinse the lines
- **Step 3:** Administer **0.500ml AGRI-TREAT®300 per 10m³** water per hour for one hour.
(See **calculation of flow per hectare**)
- **Step 4:** Mix AGRI-TREAT®300 volume per hectare in 200 liter water and administer for one hour.
For best results administer per irrigation block. A spray tank or an injector pump can be used.
- **Step 5:** Leave the AGRI-TREAT®300 in the system for 24 hours
- **Step 6:** Rinse lines properly thereafter.
- **Step 7:** In the case if the desired flow not achieved, repeat the process.

Maintenance Application:

Recommended for dripper lines that is only partially blocked.

- **Step 1:** Administer along with the irrigation cycle.
- **Step 2:** Administer 0.500ml **AGRI-TREAT®300** per 10m³ water per hour for one hour.
(See calculation of flow per hectare)
- **Step 3:** Mix AGRI-TREAT®300 volume per hectare with 200 liter water and administer for one hour.
- **Step 4:** Repeat if necessary
- **Continuous application:** Recommended in cases where the Bacteria and Fungus pressure is high, especially at nurseries and greenhouses where the irrigation is being done continuously.
- **Step 1:** Apply 150ml AGRI-TREAT®300 per 10m³ water continuously with a pulse pump during irrigation cycles from pump room before filters.

ADMINISTERING AGRI-TREAT®300 (micro's)

- **Step 1:** Administer 0.500ml AGRI-TREAT®300 per Ha.
- **Step 2:** Mix the AGRI-TREAT®300 volume in 100 liter water and apply for 20 minutes of the last irrigation cycle.
- **Step 3:** Switch system off. Leave in the lines for 12 to 24 hours.
- **Step 4:** Rinse lines properly and continue with irrigation.



ADMINISTERING AGRI-TREAT® 300 (filters)

- Cleaning the filters is very important during the whole cleansing process.
- **Sand filters**
- **Step 1:** Rinse the sand filter as normal
- **Step 2:** Switch off the filter and open the lid
- **Step 3:** Administer 2 liter AGRI-TREAT®300 (per 48" unit)
- **Step 4:** Wait 24 hour and repeat a reverse flow action
- **Step 5:** Repeat if necessary



Calculating AGRI-TREAT® 300

(drippers only)

Agritreat berekening				
1Ha	gedeel deur	Rywydte	=	Lopende m/ha
10000		1		10000
Lopende m/ha	gedeel deur	drip spasiering	=	Aantal druppers/ha
10000		1		10000
Aantal druppers/ha	maal met	lewering/drupper	=	Vloei/ha
10000		1		10000
Agritreat/ha(L)	maal met	ha/besproeiingsblok	=	Agritreat/besproeiingsblok/uu
0.5		1		0.5
Vul inligting in die geel blokke in om berekenings te doen.				

COMPARISON



VERGELYKING

Comparison between the various chemicals for cleaning irrigation drip-lines

	Feature / Chemical	Chlorine	Hydrogen Peroxide	AGRI-TREAT
1	Effectiveness at different pH levels pH5 pH 7 pH8	Effective Ineffective Ineffective	Effective Effective Effective	Effective Effective Effective
2	Environmentally Friendly?	No	No	Yes
3	Can it cause damage to crops?	Yes	Yes	No
4	Can it cause damage to soil organism?	Yes	Yes	No
5	Potential for Resistance	Low	High	Low
6	Safe for Humans and Animals?	Dangerous	Dangerous	Safe
7	Can the chemical erode metal components in the irrigation system?	Yes	Yes	No
8	Is the chemical EUROGAP approved?	No	No	Yes
9	How long must the chemical be in the line?	12 hours	24 hours	15 min
10	Can you continue to irrigate while application takes place?	No	No	Yes
11	Does the product affect the growing tip of root hairs?	No	Yes	No
12	Can the product build up in the soil?	Yes	No	No
13	Does the product need the pH of the water to be adjusted?	Yes	No	No

% to pH

pH	% HOCL Chlorine	% HOBr AGRI-TREAT®300
6.0	97	100
7.0	76	98
7.5	50	94
8.0	24	83
8.5	9	60
9.0	3	33

EUREPGAP



Certification & Training

Integrated solutions - Management systems - Products & Services - Personnel



primuslabs.com



Attestation

TO WHOM IT MAY CONCERN

ProCert Safety AG confirms that the product(s) mentioned below from the company **AQUATICUS SERVICES (PTY) LTD.**, will not contravene any of the EUREPGAP FP version 2004 compliance criteria, under the condition that the product will be used as stated on the product label and the product's registration conditions:-

AGRI-TREAT 300

All users must study the material safety data sheet Version 1 dated 24-01-2003, or any more recent version, available from the company and familiarize themselves with the characteristics and safety aspects of the product.

We've verified all the facts and information as supplied by the company. We do not judge the performance of the substance or the superiority over or against any similar classed products of any of the competitive products if any exists,

ProCert Safety AG - Certification Body for products.

Gerard van der Laarse

General Manager SA

RESULTS



RESULTS ...



RESULTS





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