

Clean, safe water is a basic human right....!



Blue Gold is a saturated, acidic, complex ionic aqueous solution containing copper, silver, zinc, aluminium and gold. The microscopic inter-action of these natural mineral ions with algae and bacteria are twofold: firstly, the algae and bacteria in the water are destroyed through a change in their enzyme processes as the ions break down DNA structures and cell walls of the bacteria and algae. Secondly, all these charged particles flock together where it can be trapped in a filter, or left to settle at the bottom of a container. These ions maintain a stable Blue Gold residual in the water, until it is totally used up by the process.

With the above in mind, Blue Gold's water purification properties speak for itself.

### The Importance of Quality Water

Water is essential to all aspects of life, yet 99% of the water on earth is unsafe or not fit for human consumption. Some 1,2 billion people globally don't have access to sufficient safe water and 2.5 billion do not have access to adequate sanitation. It is estimated, that 9 500 children die world-wide every day from water-related diseases and a lack of clean drinking water. Water is an economic issue as it is essential for poverty reduction, agriculture, food and energy production.

South Africa specifically, as an economy, is constrained by water scarcity, and increasingly by deteriorating water quality. As this issue can limit future economic development, it is treated as a strategic issue. The prevalence of HIV/Aids is also an important factor, highlighting the need to have access to clean water and sanitation as a foundation for human health.

### What is Quality Water?

Obtaining quality water would seem to be an easy task, since approximately 70% of the earth is covered by water. Quality water for human consumption, is classified as clean, safe drinking water, that is free from harmful bacteria and organisms, especially free from waterborne diseases such as typhoid, cholera, etc.

### Waterborne diseases & BLUEGOLD:

Waterborne diseases present a range of syndromes, including acute dehydrating diarrhea (cholera), prolonged febrile illness with abdominal symptoms (typhoid fever), acute bloody diarrhea (dysentery), and chronic diarrhea (Brainerd diarrhea). Each year, an estimated 4 billion episodes of diarrhea result in an estimated 2 million deaths, mostly among children. Waterborne bacterial infections may account for as many as half of these episodes and deaths. Many deaths among infants and young children are due to dehydration, malnutrition, or other complications of waterborne bacterial infections.

The common bacteria that cause the mentioned diseases are known as Vibrio cholerae, Campylobacter, Salmonella, Shigella, and the diarrheogenic Escherichia coli.

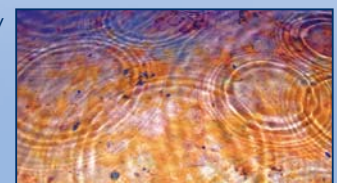
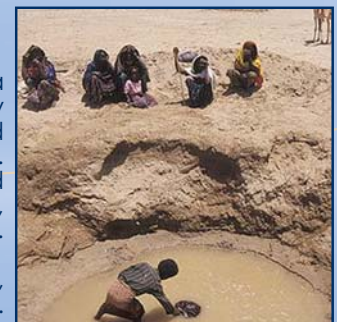
Amongst other tests, the following very important cholera test was performed at the South African Bureau of Standards (SABS) which confirmed the effectiveness of Blue Gold in eradicating waterborne diseases, for example:

*Vibrio cholerae: Blue Gold sample was tested by spiking two one litre samples of water with  $10^5$ /ml culture of Vibrio cholerae and treated the test sample with 3 drops of "Blue Gold" solution for a contact time of 90 minutes, after which both water samples were tested for recovery of the Vibrio cholerae in broth and plate culture. NO viable Vibrio cholerae was isolated from the sample treated with "Blue Gold" (Report number: 7218/1907835/167/W00856)*

Blue Gold effectively killed the following bacteria in tests performed by the CSIR, SABS, University of Pretoria, University of Johannesburg, private laboratories, etc:

- Vibrio Cholerae
- Campylobacter
- Salmonella
- Shigella
- E-Coli

Blue Gold can be summed up as a water quality intervention that employs simple, inexpensive and robust science, specifically appropriate for and focused on the developing world. Our objective, is to make water safe through disinfection and easy application at the point of use.



Like all great endeavors, growing plants successfully, is not only a science, but also an art.

AGRIgold™

It is our mission to assist growers and gardeners in creating solutions which are environmentally safe, cost effective and gives an alternative to harmful pesticides. By doing this, we also aim to increase the profit yields of our clients and offering them sustainable long-term alternatives.

### What is AgriGold?

AgriGold is manufactured by BlueGold Water & Chemicals (Pty) Ltd as part of its product range focusing on supplying the consumer with human- & eco-friendly solutions for the eradication of harmful bacteria.

AgriGold acts as a:

#### 1. Bactericide

As commonly known, "good" bacteria is necessary for the effective growth cycle of plants. The challenge lies in eliminating the harmful bacteria in the life-cycle of plants, without compromising the natural growth-cycle. AgriGold does not harm the "good" bacteria and therefore the plant's natural "immune system" stays in tact.

AgriGold in its application as a bactericide, also acts as a fungicide and very successfully kills amongst other, the following bacteria and fungi:

- Ralstonia erwinia
- Fusarium
- Pityrosporum
- Saccharomyces cerevisiae

#### 2. Sterilising Agent

The ions in AgriGold break down the DNA structures of the eggs and larvae of various pests and therefore hatching cannot take place. This chemical inter-action with eggs interrupts the life-cycle of the pests.

This is applicable in the effective treatment of the following pests:

- White fly
- Ants
- Thrips
- Mites
- Aphids

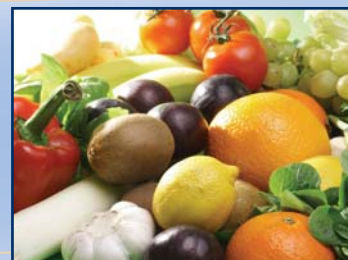
#### 3. Liquid Fertiliser

The active ingredients in AgriGold are:

- Copper (Cu++)
- Silver (Ag)
- Zinc (Zn++)

Other minerals present in the product are, aluminium (Al), Potassium (K), Magnesium (Mg), Gold (Au), etc.

All plants require minerals for optimum growth, and because AgriGold contains all of the mentioned minerals, it acts successfully as a liquid fertiliser.



AGRIgold™

Be Safe...Be Sure...

AQUAGold™

AquaGold is the product in the Blue Gold range, which effectively deals with the treatment of Algae in dams, natural and man-made, irrigation systems, etc.

It is also very effective in controlling bad odours caused by waste water, standing water which contains algae, human /animal faecies and other odour causing agents.

**Dams:**

Algae, like for example, Mycrocystis Aeruginosa has become an international concern and it is thriving in conditions where phosphates from the catchment areas end up in both water reservoirs and dams, such is the case in many dams in South Africa and around the world. Mycrocystis is toxic to humans and animals and cause diarrhea, nausea and skin irritations. Many dams are badly infected, causing major problems to humans residing close to these dams and authorities alike. Various complaints, including headaches and an unbearable stench from the algae, are regularly reported.

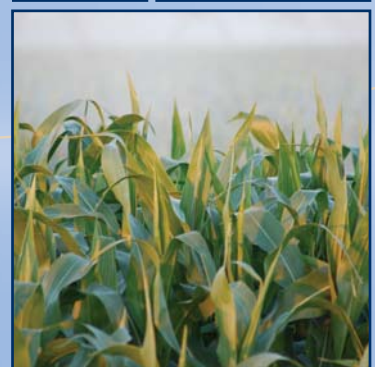
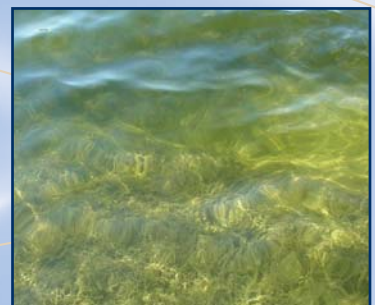
AquaGold eradicates the algae in the dams as mentioned very successfully. It also gets rid of the stench caused by the algae, almost immediately after application.

**Irrigation:**

AquaGold not only sterilises the water that is used in the irrigation systems, but also takes care of calcification (CaCO3) problems experienced in irrigations systems and filters alike.

**Ground application:**

AquaGold applied in and around the house, will prevent for example the hatching of eggs of ants and other garden pests. Specific dosage for each identified application will be advised.



AQUAGold™