Robert Brown (left) and Andrew McBride with their Prosol Agri Grow which is currently in a registration process. PHOTO: NICO VAN BURICK

New growth medium shows great promise.

Experiments with an agent that was initially used mainly for water purification have shown promising results in agriculture in recent years to combat harmful fungi in certain crops and to promote growth and harvests.

Intensive tests are currently being carried out on a water sanitizer that also acts as a growth stimulant and can even prolong shelf life of fruit. The product range, known as Prosol Agri, is a formulation of gold, silver, copper and other ionized metals in a solution currently in the process of registration at theDepartment of Agriculture. It is being marketed by the company Consume-it.
Mr. Robert Brown, member of Consume-it, says the basic product has actually been around for 25 years, marketed under other brands as a water sanitizer to municipalities and others businesses.

Someone who used throw the waste water from a self-made solution on his lawn noticed that it made the grass grow much better and later also saw that it cleaned and sterilised his pool water. This led to the use of this product as a water sanitizer. He said Consume-it acquired the global rights for the agricultural applications of this product a few years ago to further exploit the product and develop the market. There are three separate remedies. Prosol Agri Grow is focused on the combating of harmful bacteria, fungi and perhaps even viral diseases in gardens and orchards. There is already clear evidence that it is effective in the control of fungi (Phytopthora and Pythium) in polluted water that causes root rot in plants/crops.

Prosol Agri Grow also significantly promoted the growth of young trees in a nursery, which led them being ready for the market earlier. Prosol Agri Bulk Water is intended for the sanitising of livestock's drinking water in areas where the water is polluted. The use of Prosol Agri Dip will extend the shelf life of vegetables/fruit significantly. "This application is still being tested, but preliminary indications were favourable enough to justify further tests, "says Brown. Fruits on which the product have been tested up to now include avocados, bananas, litchis and citrus fruits.

FASTER GROWTH, INCREASED RETURN!

One of the first greenhouse trials done with Prosol Agri Grow was with strawberries in 2018, in China. The remedy was administered to irrigation water in a ratio of 1:50 000 litres of water. The trial lasted over a period of five months.
According to the report, the treated plants grew significantly faster than the rest and flowered two weeks before the control plants started flowering, and the yield was already 39.9% higher. Brown says in tthe same year there was also an experiment with tomatoes in a greenhouse in China. Again, the results were more than promising. The ratio of Prosol to irrigation water with this trial was 1:100,000 litres. The treated plants also grew faster in this experiment and started flowering a week earlier than the untreated plants.
According to the test results the yield was 23.2% higher. Several local trials have also been yielding very promising results indeed.

Brown says in one trial, water from the Crocodile River which is heavily infected with the fungi Phytophthora and Pythium was treated with Prosol Agri Grow at 1 litre per 100,000 litres of water ratio. These two fungi cause root rot in various economically important crops in the Crocodile River catchment area. The treated and untreated water was tested at the laboratory of the Agricultural Research Council (ARC) Institute for Tropical and Subtropical Crops at Mbombela (Nelspruit) by the plant pathologist Mrs. Maritha Schoeman.

According to her report, both fungi were destroyed in the treated water and more important - it was the first time that an eco-friendly product could effectively combat root rot.
Brown says Prosol Agri Grow can therefore as shown by this result, also be used to purify irrigation water. For this study, a fairly high dosage of Prosol was used because everyone knows the amount of fungal spores in the water is high. The dosage used on different farms , will depend on the extent to which the irrigation water is polluted.

PROMISING TEST RESULTS.

In addition to the benefits of sanitising water, another trial done by the institute last year has shown that it also acts as a remedy for increased growth in avocado trees in a well-known nursery. The experiment was carried out at the Schagen nursery of the Fruit Farm group 20 km west of Mbombela by Mr. Sakkie Froneman, manager of the nursery, and Mr. Nico Roets, plant physiologist at the institute.

Young trees (saplings) were watered twice a week with Prosol in a water ratio of 1:10 000. The untreated control group received plain, clean water, and both trials had received the nursery's standard fertilizer application. Roets says in a report that the use of Prosol Agri grow significantly promoted growth. The treated trees were longer than those in the control group, and had larger leaves, thicker stems and a larger root mass.

Prosol Agri grow did not cause any build-up of toxicity or have an increase of ions in the growth medium.We see the product as a safe supplement to increase growth in the nursery as well as to promote and contribute to cost savings and profitability. He confirms that the product was only tested on avocados and that the concentration of Prosol in the water was relatively high. Further tests are now being performed to determine what can be an optimum ratio. The product is also being tested on macadamia trees in the nursery, and according to him looks very promising. I think the product has a lot of potential in certain applications, such as with the improved growth of trees in a nursery. I was also impressed with the fact that it eliminated Phytophthora and Pythium in the water. How the mechanisms works, we have yet to determine, but the test results showed it works.

ENVIRONMENTAL ASPECTS TAKEN INTO ACCOUNT

However, Roets says a lot of water still has to flow into the sea before there will be certainty about the claims that it can extend shelf life or can control diseases on fruit when fruit has been washed with this product.
Brown says they are in the process of registering the product, but it is something that normally takes two years and now with the restraint measures it might even be longer. He says the products are supported by a non-profit company, the Agricultural Centre of Excellence under which different universities and technicons are also involved.

The product can already be implemented on individual farms.
There is even the necessary insurance coverage from the manufacturers. He says that the environmental aspects of the product have been looked at extensively and thoroughly. The product in its diluted form meets all international standards and is already utilized in irrigation water on several farms, while several other trials are being performed.
Consume-it firmly believes in the benefits of its products and also in the informal tests that we have done ourselves which show that the product extends the shelf lifeof fruits. However, to gain a full understanding of all the benefits of the products, there are still many independent trials on a whole spectrum of crops still to be done.

Mr. Robert Brown says although it has not yet been scientifically proven, his own trials indicate that the sanitizer extends the shelf life of fruit Here are two apples of which one (left) was treated and the other one not. PHOTO: SUPPLIED

Trials conducted by the Agricultural Research Council's Institute for Tropical and Subtropical Crops with the application of Prosol on young avocado trees at the Schagen nursery near Mbombela showed that the sanitizer improved the growth on young trees. Here are the treated trees (FAR LEFT) opposite to the control group that does not has not been treated.
PHOTO: SUPPLIED

In a trial of the institute for Tropical and Subtropical Crops at Mbombela, water from the Crocodile river which was infected with the root rot fungus Phytophtora and Pythium, was treated with diluted Pro-sol Agri Grow. There it was found that it destroyed the fungi.

Those involved in Prosol are, from left, Messrs. Robert Brown, Tinus Taute and Andrew McBride, who show that the product in diluted form is completely safe to take. PHOTO: NICO VAN BURICK