



HYDROGEN PEROXIDE IN AGRICULTURE

Hydrogen Peroxide is used in a variety of industries for oxidation, bleaching, sterilisation and disinfection.

In agriculture, hydrogen peroxide is used in animals' drinking water, as a sterilising agent and as a crop spray.

Merck's Index indicates that hydrogen peroxide can be used as a water disinfectant.

Always use hydrogen peroxide in a dilute solution.
NEVER use it as a concentrate without diluting it first.

The following information is for educational purposes and is not meant to be treatment prescriptive. It is shared information others have told as having worked for them as they seek to have healthier animals and plants. Man, too, will benefit further down the food chain from the beneficial effects of hydrogen peroxide.

It was in 1985 that the first dairy farmer began injecting hydrogen peroxide in the water system of his entire farm. The water on his farm was polluted and mastitis was a problem with his herd. After continual use since that time, this same farmer has noticed with satisfaction the healthy state of his cows. In April 1988, the butterfat content of his Holstein cows was up to 5.3%. Another farmer who weighs the milk from every cow at every milking, reported that his milk production increased from 6 to 8 pounds per cow per milking. Others have reported their bacteria count has gone down to less than 2,000 per cubic centimetre. Many other farmers are continuing this experimental process.

Drinking water for farm animals

Mix 60ml of 50% hydrogen peroxide to each 1000 litres of water for 30ppm of hydrogen peroxide in water. If you do not have an injector system, use 1.8ml of 50% grade to each 30 litres of water. This same ratio is used for all farm animals:

Cows, pigs, poultry, sheep, goats, rabbits and birds and is said to be useful by increasing the oxygen levels to the blood and cells. When hydrogen peroxide has been used for cattle, an increase in milk production and an increase in butterfat content have been reported. Farmers have also reported less mastitis in their herds. Pig farmers have reported that they have been able to market their pigs using less feed in a shorter growing time (as much as 30 days less). Turkey and chicken growers reported increased weight per bird using less feed. It is told that the reproduction rate of buffalo increases by placing hydrogen peroxide in the drinking water.

Peroxide application into drinking water (tank/well water or city water) can best be accomplished by using a metering device. This keeps the dosage more constant and thorough, with manual application a second best. When peroxide is being applied throughout the entire watering system with a reading of 30ppm at the end of the line (use peroxide test strips designed for this purpose), all the water should stay clean of rust, bacteria, and algae plus foreign materials found in some water. Thus the waterers stay clean and help to stop the spread of disease.

Through this method of water purification, cows are known to pass worms, housed pigs without even parasite eggs in their faecal matter (with no previous worming medication for an extended period of time) and some animals may cut back on their feed depending on the nutrient level of

their feeding program. As long as the iron and mineral level in the body is where it should be, the peroxide will attract and hold oxygen in the blood and cells of the body, allowing the body's fuel system to burn more efficiently. This process of water purification is especially helpful for any animals in a confined situation.

On the dairy farm

For newborn calves: add 6 to 10 drops 50% hydrogen peroxide to a bottle of milk morning and evening per calf. This has helped to brighten up calves and in some cases relieved scours, depending on the pH of the milk being fed.

Afterbirth: discharge is reported to occur faster and cleaner after giving birth to a calf when hydrogen peroxide has previously been added to their drinking water.

As a drench: can be given for high fever and off-feed cows with mastitis, depending on the situation and case. Mix 17 to 34ml of 50% hydrogen peroxide to 1 litre of water, drenching the animal morning and evening for as long as needed – usually 2-3 days.

Ailing cows: can be given 500ml of 3% solution** of hydrogen peroxide to 20 litres of water

In colostrum milk: to hold from spoiling until it is all fed to the newborn calf. Depending on the time of year, pH of milk, temperature of milk etc, use from 5ml to 20ml of 50% hydrogen peroxide to 4.5 litres of colostrum milk.

As mastitis treatment: put 1 ml of 3% solution** with 2-3ml water up the teat canal twice daily until it has cleared up.

For udder washing: use 35ml of 50% grade in 10 litres of warm water. The cow tends to have softer teats and are freer of bacteria on the teat ends. This helps keep bacterial counts down in the milk vat.

Animal wounds: clean the wound with 3% solution** of hydrogen peroxide.

Induced vomiting: of stock can be achieved with 3% solution** of peroxide.

Milking equipment washing: to rinse the milk contact surfaces for milkstone and bacterial control. Depending on the length of the pipeline, between 50ml and 100ml of 50% hydrogen peroxide to 100 litres water will work with good results. (NOTE: If hydrogen peroxide is being injected into the water system at 30ppm, the above concentrations may need to be cut in half.)

For power wash: in the milking shed to help keep it sanitised. Mix enough peroxide into the water so that a light foaming action comes when spraying the floors and walls. Leave this until the foaming subsides and spray again. If the foaming recurs, then the areas that still foam are not clean. Either raise the peroxide level of the original spray water or merely respray the contaminated area with this first amount.

Effluent/slurry ponds: it has been found in Pennsylvania that by adding 30 litres of 50% hydrogen peroxide to 1 Ml of slurry and agitating it, there is no odour given off from the slurry. Then several days prior to applying the slurry to the paddocks, a truckload of blackstrap molasses and bacteria is added. Once again 30 litres of peroxide is added and agitated and the mix is applied to the paddock as fertiliser. There is no odour and is said to be one of the finest fertilisers.

Converting crop residue into cattle feed: hydrogen peroxide has been used in converting crop residue into cattle feed. This could be an asset for the farmer – especially in times of drought. Low quality materials such as straw, cornstocks, corn cobs, soybean residue, ground up brush and even sawdust can be converted into feed stuffs. The experimental work was done by Michael Gould, US Dept. of Ag at Peoria, IL. Feedlot reports say the meat is as good as corn fed.

It is understood the material is soaked in a 1% solution of hydrogen peroxide for 16 hours. This breaks down the fibre so that it can be assimilated. According to an article in Farm Industry News, April 1986 (Vol. 19, No. 4), treated wheat straw is ground into flour and bread, cakes and pancakes made with the flour.

Crops, Orchards & Plants

Foliar feeding: of crops, put 350ml of 50% grade hydrogen peroxide in 100 litres of water for each acre (875ml in 250 litres per hectare). Spray on plants early in the morning.

Seed germination: to germinate seeds, put 30ml (or up to 150ml) of 3% solution** into 600ml of distilled water. Soak the seeds for 8 hours. An experiment was done soaking old wheat in the solution, while also testing seeds with plain water as the control. The treated seeds germinated at a rate of 90% while the controlled seeds germinated at 60%.

Insecticide: use hydrogen peroxide as an insecticide by mixing 250ml, or more, of 3% solution** to 5 litres of water together with 250ml of molasses or white sugar. It has been found that blackstrap molasses works better than sugar. It seems to adhere to the plant better.

House & Garden Plants: put 30ml of 3% peroxide solution** into 1200ml of water (or 10 drops of 50% hydrogen peroxide to 1 litre of water) and water or mist the plants with this mixture.

Orchards: orchard owners are watering the ground around the trees using from 375ml to 500ml of 3% solution to 10 litres of water and are also using it as a spray. It has been reported that a pear tree that never bore fruit is now bearing fruit after treatment.

Rice paddies: in Japan, non-productive rice paddies were treated with hydrogen peroxide and now rice is once again grown on the paddies.

Other Farm Animals:

Pigs: In the production of pigs, it has been found that the meat is more lean when hydrogen peroxide is added to their drinking water. One pig raiser who sells by grade and yield only, reported that he got the highest grade ever. Another pig raiser raised one to 110 kg for her use. It yielded only 10 kg of lard.

Another pig farmer took two to be slaughtered for his own personal use. While there, the meat inspector came and inspected the pigs. He was amazed to see how large the lungs were in comparison to another pig grown in close confinement. The latter pig had pneumonia like most pigs raised this way. The pneumonia is held in check with antibiotics. The meat inspector told the farmer that his pigs were getting the proper amount of oxygen "It takes oxygen to make good lean meat," he said. He then asked the farmer, "What are you doing?" The reply was, "I just treat the water."

Pigs with scours: in the case of pigs with scours, use 100ppm for 2-3 days, then back down to the normal amount of 20-30ppm.

Effluent/slurry ponds: see under dairying above.

Chickens: in the autumn of 1983, over 1 million chickens were given hydrogen peroxide in their drinking water because of the avian flu epidemic. None of these birds got the flu, but before the epidemic was over, 11 million chickens had to be destroyed and put in landfill.

A chicken farmer in eastern Ohio, with a flock of 20,000 egg layers, found that by putting hydrogen peroxide in their drinking water, the egg production went up 1,000 eggs per day. There is now a farmer raising 350,000 egg laying birds on peroxide.

A chicken raiser who raises heavy chickens said the problem she usually has had with the chickens' legs and tendons breaking was greatly reduced after using hydrogen peroxide in their drinking water. She also noticed when she dressed the chickens, there were no breast blisters.

Broilers raised with hydrogen peroxide are said to be the best chicken eaten. Some consumers rinse or soak the supermarket bought chicken in a 3% solution first to rid them of possible salmonella.

Decontamination of Broiler Carcasses: Hydrogen peroxide was used experimentally at the rate of 0.5 to 1%, soaking it in this solution for 10 minutes as a decontaminant for salmonella. The work was done in the Netherlands and published in 1987, Poultry Science, issue 66, pp1555-1557.

Turkeys: A number of turkey growers throughout the US and Canada are using hydrogen peroxide in their drinking water. A turkey grower in Canada put 20,000 turkeys on hydrogen peroxide. In the same growing time, they averaged 1.5 pounds more per bird, used 8.5% less feed and the mortality rate went down.

In Missouri, a turkey grower took his birds from chicks to market without using any medication or antibiotics. One of the head veterinarians of the State of Missouri was asked about the use of hydrogen peroxide in the drinking water of turkeys. His comment was, "It's only water and oxygen and cannot hurt them. It will not show up in the chemical residue test." This same farmer was awarded the 'Grower of the Month' award.

A turkey grower in Wisconsin said that after using hydrogen peroxide on his turkeys, his chemical residue test came back with zero chemical residue.

Birds: hydrogen peroxide and sodium perborate were used by Robert Stroud to heal birds. He wrote about it in his book, 'Diseases of Birds', which should be available from the local library. Stroud is "The Bird Man of Alcatraz".

Pets: For small animals such as dogs and cats, use 30 ml of 3% solution to each litre of water.

Fish farms: peroxide is being used to disinfect water at fish farms so as to reduce the fungal growth on fish. Hydrogen peroxide is being put in the make-up water at the rate of 5ppm. Tropical fish raisers have found that adding 20ml of 50% grade hydrogen peroxide to 100 litres water is sufficient. As a precaution, do not exceed this amount. Where a little is good, more is not necessarily better. A technical article dealing with peroxide and fish is "The use of Hydrogen Peroxide in the Transport of Fish" by Timur, M.Baran, I.Karahan, B.Veterinerfakultesi Dergisi Ankara Universities 1982, 29(3/4) 4210426 (TR,Em). There was also a study done using ozone in transporting fish from Alaska. This consisted of passing ozone through crushed ice. They found they could get an additional 12 days of shelf life for the fish.

** To make a 3% solution, mix 6 parts of 50% grade hydrogen peroxide with 100 parts of clean water. Distilled water is best when available, especially if the solution is to be stored for any length of time.

FOR FURTHER INFORMATION CONTACT

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