Safe Drinking Water for Rural Saskatchewan

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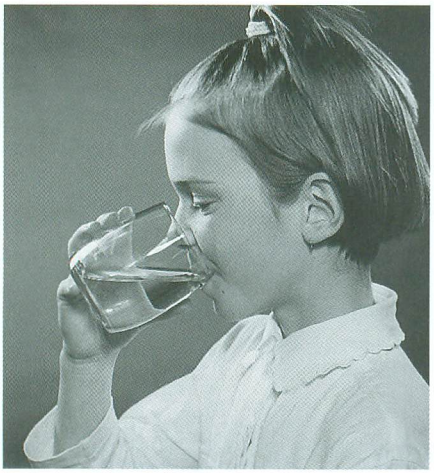

"Is this water safe? Hans Peterson's dream is that every farmer and small community in Saskatchewan can say "You bet it is"

Safe drinking water has been on Hans Peterson's mind for 10 years. Hans is the Principal Research Scientist with the Saskatchewan Research Council and in the spring of 1987 he started a project called "Algae in dugouts". He saw his first drinking water dugouts in April of that year and says "I couldn't believe that people would drink such murky looking water and without in-house treatment to boot". The next 10 years have been filled with a flurry of activities to raise the awareness of drinking water quality. Hans has built a 10 person Water Quality Section including people from Sask Water, PFRA, Napier University (Scotland) and the University of Saskatchewan part of the time, all stationed at SRC. Not only do they work in Saskatchewan, but they also are involved in both national and international projects.

The highlights of the activities for improving drinking water quality in rural Saskatchewan can be summarized as:

- Increased general awareness of drinking water quality by working with print, radio and TV, held two workshops in Saskatoon (1990 and 1995) on rural drinking water, was a key founder of Prairie Water News, which publishes solutions to water quality problems on the prairies.
- Improved recommendations on how to manage dugouts including better guidelines for copper sulphate and pesticide use.
- Developed water treatment techniques for dugouts to deal with poor quality water (coagulation and nutrient management).
- Designed and developed biological in-house filtration of ground and surface waters in collaboration with industry.

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During the last couple of years while working with ADD Boards across Saskatchewan, the drinking water team stationed at SRC has found solutions that can dramatically improve the quality of even the poorest water. For surface waters this has meant that murky waters have become crystal clear through advanced coagulation (large quantities of the coagulation chemicals alum or ferric chloride) in the dugout or in a separately constructed sedimentation cell.

Foul tasting and smelling water has also been dramatically improved through in-house biological treatments. These treatments consist of allowing naturally occurring bacteria to grow in the filters under optimum conditions where they primarily remove colour and dissolved organics for surface water systems and iron and arsenic for ground water systems.

For more information on water quality for human or animal uses contact your local Sask Water or PFRA office or study Prairie Water News, which is also available from the above agencies. Prairie Water News is also available on the Internet at http://www.sasknet.com/~water ■

Brown water (bottle to the left) before coagulation treatment turns crystal clear (bottles to the right)