

TREATING RURAL WATER

The most common water treatment tool used in homes on the rural prairie is granular activated carbon (GAC) filtration. This is a treatment technique that functions by removing particles and dissolved organic material (for example: colour), and it should generate water that is better for human consumption. In most areas of Canada this is correct, but not on the rural prairie where dugouts are used as source waters.

Research has shown that such filtration systems will last for only short periods of time (less than 1 month) before the GAC needs to be replaced (a farmer typically does not replace this GAC once installed). The figure below shows how during the first days of water treatment the GAC will remove large levels of organic material, but after a relatively small amount of water has been treated, the GAC filter loses its ability to remove dissolved organics.

Research on rural water in Saskatchewan has shown that when this type of water is treated using granular activated carbon (GAC) it will remove colour and organics for only a short period of time (around 1 month). A farmer or rural community will therefore be able to produce water with low colour for a short period of time only; this is followed by a return to a similar colour as was obtained without treatment. The figure shows that the removal of organic material is high in the beginning, but then rapidly declines.

