

Montana State University Extension Water Quality 2005 Montana Well Test Program

Montana State University (MSU) Extension Water Quality offered the first Montana Well Test Program (MWTP) in 1989. The program has been offered a number of times since 1989, most recently in the spring of 2005. The MWTP targeted the 15 Montana counties with the largest number of new well installations in 2004. The 2005 program attracted over 375 participants from 17 counties across the state. The program is offered as a service for Montana well owners to provide affordable well testing services accompanied by test result interpretation and educational materials. Educational materials outline water quality related health concerns, well water monitoring and maintenance suggestions, and explanations of well owner responsibilities to protect ground water resources.

The 2005 MWTP offered testing for total coliform (bacteria), E. coli (bacteria), total dissolved solids (salinity), nitrate (nitrogen), sodium, and arsenic. The test results showed relatively good water quality for most participants with only a low percentage of results found to be objectionable based on Montana water quality standards.

MSU 2005 Well Test Program Result Summary					
T Coliform (present/absent)	E. coli (present/absent)	TDS* (mg/L)	Nitrate (mg/L as N)	Sodium* (mg/L)	Arsenic (in some locations) (mg/L)
absent 82.9%	absent 99.5%	<500 89.3%	<10 99.5%	<250 95.1%	<0.01 97.6%
present 17.1%	present 0.5%	>500 10.7%	>10 0.5%	>250 4.9%	>0.01 2.4%
# of samples 374	# of samples 374	# of samples 374	# of samples 374	# of samples 244	# of samples 84
* Parameters that do not have a Montana primary drinking water standard (health related standard)					

Who participated in the program?

The following participant information was collected from surveys included in sampling packets.

- The majority of program participants in 2005 were small land owners in rural areas with property not related to the agricultural industry.
- Over half of the participants indicated that they would like to know more about maintaining their well head and protecting ground water quality.
- About 25% of participants had livestock on their property.
- Over half of the participants live on land parcels from 1 to 10 acre in size.
- About 90% of participants were on septic systems.
- About 50% of those on septic systems knew their system had been pumped/cleaned at least once.
- About 50% of participants noted that the previous land use on their property was agriculture related.

The Future of the Program:

MSU Extension Water Quality is currently reviewing the 2005 program and assessing possibilities to improve the program if it is offered again next year. Possible new developments include more choices of water testing parameters, results interpretations that include water suitability for agricultural uses, and the development of a system to organize the water quality results into a geographically oriented database. To stay informed about the Montana Well Test Program and other Extension Water Quality programs and research visit us on the web at <http://waterquality.montana.edu>