

Bringing the 919 into the 21st Century



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The Model 919 Moisture Meter is the industry standard for grain moisture testing. For more than 40 years, the 919 has remained an essential tool for Canadian grain farmers and is revered by producers for its accuracy and durability. In 2002, Bill Fraser, owner of Quantum Electronics in Brandon, Manitoba was discussing the meter with the 919's manufacturer, Dwight McRae. McRae was aware of the 919's solid reputation and wanted to upgrade the meter. His major concern was that since the sister Motomco 919 was no longer in production, the same electronic components used in his meter were being discontinued by suppliers which would eventually force the meter into obsolescence. Fraser suggested going digital.

The chief advantage of the digital display is the elimination of the needle error. On passing through the null point the drum dial can show about three divisions with very little activity on the needle movement. This makes it difficult to determine the exact point at which the reading is at a minimum thus producing needle error. The procedure is repeated twice for one test, creating the ability for additional error. With the digital display, the readings have positive and negative numbers, and an unequivocal zero at the null point. The drum dial will show the next digit in less than half of a division at this point. The result is an extremely fast and accurate reading thereby eliminating the needle error.



Before

"Dwight asked that I look into it and he sent me a number of meters to work on," says Fraser. "We wanted to create a new, digital readout that would fit into the existing meter without changing any of the other components. And, the results had to be consistent with existing charts." McRae also set Fraser a tall task-get the new digital readout to be accurate when testing the moisture of oats. "Oats are the most difficult to get accurate readings for the existing 919," said McRae. "If we could get accurate readings for that grain, it will work for all other grains."

The digital upgrade can be installed by Quantum Electronics in Brandon. "This is a modification that needs to be done by someone who knows how the meter works," explains Fraser. "It shouldn't be done by any producer."

The digital retrofit is designed to fit all 919 moisture meter castings. The accuracy remains intact regardless of the age or brand of the meter. This product is receiving favorable response from users and is preferred for its ease of operation as it integrates well into the existing meter for refurbishing or repair. The expensive replacement as well as the indefinite availability of the previous meter movement or chassis is also eliminated.



After

After nine months of testing, McRae came out to Brandon, saw the prototypes and pronounced the new meter a success. Within months, orders for the new digital meter were overwhelming. Fraser's new Digital 919 Meter was featured at the New Inventor's Showcase at this year's Manitoba Ag Days show.

It uses the same operating procedures and charts so that the transition from the prior art to the new one is, for the operator, straight forward. This truly brings the Model 919 into the 21st century.