Cover Stories:

Major Scientific Publications Featuring NRI-funded Research

Knowledge For Tomorrow's Solutions

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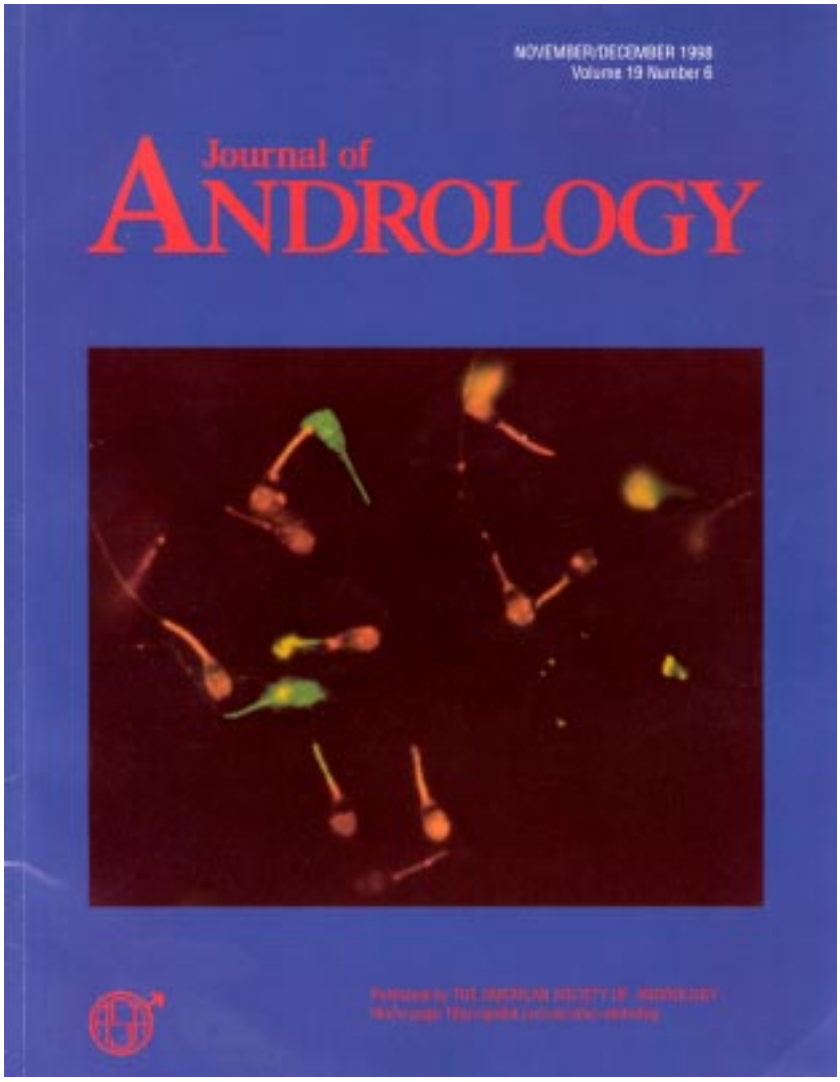
D.J. Miller, J.M. Demers, A.G. Braundmeier, M.L. Behrens. 1998. The Use of Two Flourescent Dyes to Identify Sperm in a Competitive Binding Assay to Oocytes. ***Journal of Andrology*** *19(6): 650-656.*



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Large increases in production efficiency have resulted from extensive use of artificial insemination in several animal industries. Artificial insemination permits greater utilization of the most genetically superior males by allowing these males to be mated to a large number of females. Additionally, artificial insemination is critical for enhancing biosecurity by reducing the risk of disease transmission. With the increasing use of artificial insemination in many agriculturally-important species, it is vital to be certain that the semen used for artificial insemination is of the highest quality. The use of poor quality semen for artificial insemination can affect, in some species, several hundred females inseminated with semen from that collection. Using NRI funding, Dr. Miller and colleagues have designed a laboratory test that measures the ability of sperm to fertilize eggs. What makes this test unique is that it is a competitive test, allowing multiple samples to be compared simultaneously. Sperm from different individual samples are identified by unique stains, in this case either red or green stains. Semen that is identified as being of low fertility can then be excluded from widespread commercial use. In addition to using this assay to identify low fertility semen samples, individuals in Dr. Miller's laboratory are using this technique to identify the common defects found in lower fertility semen samples. Once identified, these defects could be circumvented by appropriate therapies.

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