

**Advanced control of bulls' semen biological parameters in the context of shaping outstanding quality standards offered on the market of insemination doses by the Malopolska Biotechnic Center in Krasne**

**Summary**

Precisely defined and thus guaranteed high sperm quality in insemination doses increases the effectiveness of semen used in a herd. The technology behind the CytoFLOW 2022 dose minimizes the risk of losing embryos in the early development stage. Ultimately, the greater fertilizing capacity of cytometrically selected ejaculates reduces the number of semen doses needed for insemination, which significantly reduces the costs of both the service itself and the biological material (straws). It should be emphasized that the product which leaves the laboratory of the Malopolska Biotechnology Centre is reproducible for all parameters, and thus irrespective of the breed and individual characteristics of the bull, each straw is identical in terms of biological quality. Meeting quality standards entails eliminating a large number of ejaculates, so that only those that guarantee high effectiveness are used in further technological procedures and ultimately placed on the market. The first results of the use of CytoFLOW semen are very promising in high-production cow herds as well as in problematic cow herds.

**KEY WORDS: bull, semen, insemination, flow-cytometry, quality standards**