all of these populations, the Breeders Associations have introduced the cytogenetic analysis to identify the carrier animals avoiding their use as reproducers, obviously if there are enough animals to proceed. In the case in which the effective number of possible sires is very low, the decision to remove carrier animals could be really dangerous. In this case, the animals can be used as breeders but all their offspring is analyzed to identify the non-carrier future reproducers. With these political decisions we expect a significant increase in the fertility of cows as has happened in Retinta breed. In Lidia breed different reasons could explain the non-presence of 1;29 translocation.

P7

The application of a multicolor ZOO-FISH on secondary bovine oocytes showed its potential use for aneuploidy detection

A. Pauciullo[1], A. Perucatti[1], A. Iannuzzi[1], D. Incarnato[1], V. Genualdo[1], L. Pucciarelli[1], M. Rubessa[2], D. Di Berardino[2], L. Iannuzzi[1] (alfredo.pauciullo@cnr.it)
[1]National Research Council (CNR), ISPAAM, Laboratory of Animal Cytogenetics and Gene Mapping, Naples, Italy; [2]University of Naples Federico II, Department of Agriculture, Portici (NA), Italy

The female gametes are more susceptible to chromosome segregation errors during meiosis I division and therefore they are the major contributors to the embryo aneuploidies. The evaluation of aneuploidies in bovine oocytes is useful for monitoring the reproductive health of this species and FISH is the main method employed for this purpose. To date only 2–3 chromosomes were simultaneously investigated for aneuploidy detection in cattle oocytes. In this work we propose a multi-color ZOO-FISH by the simultaneous detection of six specific chromosome painting probes on secondary oocytes matured in vitro. Standard procedures were employed for 24 h in vitro oocytes maturation, whereas specific autosomal probes were prepared by microdissection and DOP-PCR using river buffalo mitosis (2n=50). Probes were labelled with spectrum-green and -orange in a second DOP-PCR. Three sequential rounds of FISH were achieved for the same slides. Each round was realized using two probes simultaneously hybridized on MII oocytes with the corresponding first polar bodies (I pb). Slides were counterstained with DAPI in antifade. Digital images were captured in gray-scale and pseudo-colored by the software. Six specific probes, painting 3 out of 5 sub-metacentric river buffalo chromosomes (BBU 1p, 1q, 3p, 3q, 4p and 4q) were sequentially hybridized on BTA secondary oocytes with the corresponding (I pb). The different colors of the probes allowed the identification of six cattle chromosomes (BTA 1, 5, 8, 19, 27 and 28) both on MII and polar bodies evidencing no abnormalities for the investigated cells, but confirming their potential use for aneuploidy detection in bovine oocytes. This result opens further opportunity of investigation for clinical cytogenetic applications also in the other species with difficult CGH karyotype.

This study was supported by CISIA-VARIGEAV project, National Research Council (CNR) of Italy and by RARECA project, PSR-214 of the Campania Region, Italy.

P8

A cytogenetic investigation on a suspected pseudo-hermaphroditism clinical case in "Rhoen-sheep"

A. Pauciullo[1,2], D. Schiefen[1], G. Lühken[1], G. Erhardt[1] (alfredo.pauciullo@agrar.uni-giessen.de)
[1]Justus Liebig University, Institute for Animal Breeding and Genetics, Giessen, Germany; [2]National Research Council (CNR), ISPAAM, Laboratory of Animal Cytogenetics and Gene Mapping, Naples, Italy

A lamb of the German "Rhoen-sheep" breed was born spontaneously with deformities of genital organs (pseudovagina with labioscrotal beadings) and urethra after normal twin pregnancy. Its twin brother was healthy and showed no deformities. Classical and molecular cytogenetic investigations were carried out to study possible karyotype defects responsible for the abnormal phenotype. Peripheral blood sample cultures were performed to get both normal and BrdU-treated cultures, the latter to obtain R-banded preparations. Normal cultures were used to perform CBA-banding and FISH-technique. The analysis of the C-banding proved the correct position of the centromeres, whereas the RBA-banding pattern showed karyologically normal arrangement (2n=54,XY). A FISH analysis was carried out to evaluate the eventual level of XX/XY mosaicism