A three phase's research was carried out in order to accomplish the fluorescence polarization and enzyme-linked immunosorbent test validations to the swine brucellosis diagnosis and to evaluate the seroepidemiology of this disease in the central western area of Venezuela. The first phase was based on proving the diagnostic operative ability of the techniques, using a referential group of serum with previous known status. The second one measured the frequency in the herds according to the technological levels and the animals' reproductive status. The last one considered the slaughterhouse animals' positivity. The results showed the operational ideal case in the brucellosis detection, with cutpoints of 78.5mP (FPA) y 21%I (ELISA-c), respectively, allowed predicting accurately the infection state with a high coefficient of statistical reliability. Both techniques got a 100% sensibility (IC95%: 100 - 100%), however they were different regarding to specificity, for FPA: 95% (IC95%: 85.4 - 100.0%) and for ELISA-c: 65% (IC95%: 44.1 - 85.9%); the positive prediction values were 97.6 and 85.1%, respectively; the negative one was 100% for both of them. The value of the area under the ROC curve was 97.7% (IC95%: 92.3-100%) for FPA and 95.2% (IC95%: 89.7-100%) for ELISA-c. Considering the above, it is proven the presence of Brucella spp. infection in swine with different reproductive conditions (4.7%) as in herds with different technologies levels (6.6 and 3.9%). Moreover, it is pointed out the frequency of brucellosis at the slaughterhouse level (7.6%). It is asked to implement epidemiologic survey programs and to restructure the brucellosis control and eradication program allowing the inclusion of theses diagnostic tools.

Keywords
Swine brucellosis, fluorescence polarization assay, enzyme-linked immunosorbent assay, operational validation