Different muscles can present variation in pH and moisture content, protein, fat and ash. The aim of this study was to compare the physico-chemical characteristics of MM. Supraspinatus and Infraspinatus of crossbred cows ½ Simmental ½ Nellore, ½ Angus ½ Nellore, ½ Canchim ½ Nelore and Nelore breed around ten years old. pH and proximate composition (moisture in stove at 105 °C, protein by micro-Kjeldahl, fat by Bligh and Dyer and ash in muffle at 550 °C) were determined. The Supraspinatus muscle showed pH average values from 5.78 to 5.80 and moisture content from 73.35 to 73.63% for the four genetic groups, whereas in the analyzes of the M. Infraspinatus the pH average values ranged from 5.94 to 5.96 and the moisture content from 72.81 to 73.11%. The average of the protein ranged from 21.95 to 22.15% for M. Supraspinatus and from 21.76 to 21.98% for M. Infraspinatus. The percentage of lipids ranged from 2.77 to 2.99% in M. Supraspinatus and 3.76 to 3.88% in M. Infraspinatus. The ash content ranged from 1.07 to 1.14% in M. Supraspinatus and 1.04 to 1.17% in M. Infraspinatus. The pH values was within normal levels and there was no difference (P>0.05) in moisture content, protein and ash for the two muscles, but, the lipids content was higher (P<0.001) in M. Infraspinatus in comparison with M. Supraspinatus.