

ABSTRACT

High consumption of foods manufactured from wheat flour very often generates instability in grain costs are governed by international markets, coupled with this production deficit with countries. That is why the need for composite flours, which wheat grains are mixed with other grains that are normally inexpensive compared to oilseeds or legume. That is why the study raises the study the control and improvement of low mass bread wheat flour with partial substitution of wheat flour with oat flour, corn and sorghum. Therefore, in a first chapter has characterized flour, thus a second chapter study baking using wheat flour partially replaced by oat flour, corn or sorghum, in a ratio of substitution of 2.5, 5, 7.5 or 10%. Finally in a third chapter we have changed the characteristics of oat flour, maize and sorghum to influence his bakery capacity. For this heat treatments have been applied on them at 80, 100 and 130°C for 30 minutes and given the results of Chapter 2 to a level of substitution of 10 to 20%. The results of Chapter 1 are shown as of the parameters evaluated, the higher protein load of wheat flour and oats are the most influential on the behavior of these factor, although in the case of oats so is his lipid greater degree. In contrast to the corn flour its high carbohydrate content, while for sorghum is the mineral matter (ash) and its larger particle size. In chapter 2 the binary formulation of flour, wheat flour partially substituted for flour in the study, it has proven the exception of using sorghum flour, one could make a partial substitution of wheat flour oats or corn to 10% without a panel of tasters evidencing differences in the overall assessment. Finally in Chapter 3 it has been able to conclude that the thermal treatment is very interesting when the substitution is made with oatmeal because similar yields are achieved to those obtained when only wheat flour is used, a replacement level of 20% . For sorghum flour it is also interesting because it allows use replacement levels up to 10%, but instead for corn flour treatment does not improve the appreciation of the loaves being evaluated favorably to 10% regardless of the application of heat treatment.