**Effect of Duration of Germination on Nutritional Components and anti nutritional factors present in of Multi Grain Mixes**

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**Abstract:** Germination is most promising technology it causes important biochemical, nutritional and sensory changes in macro nutrients by their metabolism which improves the digestibility, certain vitamins and secondary compounds such as antioxidant are enhanced during germination anti nutrients like fatty acids and fiber are often reduced certain oligosaccharides which results in flatulence and digestion are reduced. **Objective**: To develop multi grain mixes from non-germinated & germinated grains. To analyze and compare the effect of germination on nutrient composition and anti nutritional factors. **Methodology:** Multi Grain Mixes consisted of Whole Wheat (RAJ-1482), whole green gram (MSJ-118), soya bean(NRC 37 Ahilya 4 ), Milk powder. Control mix C was prepared by non-germinated grains; Mix A by 24 hr; Mix B by 36 Hr and mix C by 48 hrs germinated seeds . Nutritional components like Protein, Fat, Fibre, Iron and Calcium; Anti nutrient components i.e. oxalic acid and phytic acid were estimated using standardized techniques. Statistical analysis for analysis of the results of nutritional estimation one-way ANOVA tests were used. **Results:** The protein content in control mixes was 13.63/100g; mix A (17.3 g/100g) Mix B (19.97g/100g) and Mix C: 24.1g/100g). The fiber content of control was 5.76%, Mix A: 5.5%, Mix B: 5.03% and Mix C: 4.76%. Calcium in the control mixes was 17.66 mg/100g, Mix A: 21.43 mg/100g, Mix B: 25.44 mg/100g Mix C: 27.21mg/100g. The iron content of control Mix C: 9.2mg/100g, Mix A: 10.58 mg/100g) Mix B: 11.76 mg/100g Mix C: 12.92 mg/100g.Oxalic acid content of control mix was (25.63 mg /100 g;) Mix A: 22.83 mg /100g). Mix B: 13.86 Mix C : 6.73. Phytate acid content on control mix:102.33 mg/100 g) Mix A: 82.83 mg /100 g, Mix B: 49.89 mg/ 100 MixC: 38.65mg/100g. **Conclusion**: Germination helps in improving the net availability of nutritional components by reducing the anti-nutritional components.

Key words: Germination, Anti-nutrients, Nutritional components, Multi Grain Mix