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Effect of millet fiber fractions on *in vitro* fermentation production of short chain fatty acids using human fecal microflora

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The study was aimed to determine first time the effect of millet dietary fiber on the fermentative activity of human fecal microflora. Dietary fiber was extracted from four commercially available millet varieties pearl millet (*Pennisetum glaucum*), Foxtail millet (*Setaria italica*), proso millet (*Panicum miliacum*), finger millet (*Eleusine coracana*) and separated into individual fractions of total dietary fiber (TDF), insoluble dietary fiber (IDF) and soluble dietary fiber (SDF). Fecal microflora was collected from human volunteers, after the three months of millet-based diet and analyzed for anaerobic fermentation of the individual millet fiber. Short chain fatty acid (SCFA) production was measured at 0, 2, 4, 6 and 24h by gas liquid chromatography. Among the SCFA, acetate was the most prominent acid synthesized in all millet varieties. The fiber fractions from millet variety pearl millet (TDF13.70%, SDF 1.20%, 12.50% IDF) gave the highest yield of SCFA while the variety finger millet produced the least. Total dietary fiber of all millet varieties contributed to produce more SCFA than the individual soluble dietary fiber and insoluble dietary fiber fractions.

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