We claim,

1. A process for the therapeutic management of diarrhea predominant irritable bowel syndrome in humans newly diagnosed with mild to moderate irritable bowel syndrome or previously untreated patients with mild to moderate irritable bowel syndrome, said process comprising step of orally administering *Bacillus Coagulans* SBC37-01, MTCC 5856 formulation containing not less than 2 billion spores at least 30 minutes before a meal, preferably as a dietary supplement in the morning for a period of 90 days along with standard treatment of care once a day in a manner that a time gap of 4 hours is maintained between the administration of said dietary supplement and the standard treatment of care and said process results in enhancing the assessed therapeutic efficacy of the standard treatment of care through amelioration of symptoms associated with irritable bowel syndrome (IBS).

2. Use of *Bacillus Coagulans* SBC37-01, MTCC 5856 containing not less than 2 billion spores in the manufacture of a medicament for amelioration of symptoms associated with irritable bowel syndrome (IBS), wherein the medicament is to be administered at least 30 minutes before a meal in the morning for a period of 90 days along with standard treatment of care once a day in a manner that a time gap of 4 hours is maintained between the administration of the medicament and the standard treatment of care.

3. The use according to claim 2, wherein the administration of the standard treatment of care comprises Sompraz D and Metrogyl 400.