Fennel (Foeniculum vulgare Mill) is a minor seed spices which belong to family Apiaceae. Fennel is a stout, tap rooted, aromatic herbaceous plant which usually grows to a height of 100-180 cm. The stem is glabrous slender and hollow at maturity with prominent parallel vein. The leaves are pinnately compound with sheathed petiole, partile leaf blade and alternate phyllotaxy. The inflorescence is a compound umbel with substended involucere of bracts and appears terminally on the plant. The plant is diploid and it has chromosome number 22 (2n = 2 x 11). The fennel fruit have peculiar aromatic and pleasant test. The aroma is due to the volatile oil content in seed. The volatile oil contains anethole, fenchone and manute quantity of pinene, comphene, diphentene etc. Fennel can be grown on a variety of soil, however, proper nutritional management is essential, as application of different nutrients was found to influence the growth, yield and quality of garlic (Wange, 1995). Use of organic manure along with inorganic fertilizers has been advocated by several workers. In view of the escalating cost of chemical fertilizers and due to their hazardous effect on soil, soil resources and human health, it is imperative to explore the possibility of supplementing chemical fertilizers with ecofriendly low cost input of microbial orgin like Azospirillum, Azotobactor and phospho bacteria. The microbial inoculants improve nutrient availability resulting in enhanced growth, yield and quality of vegetable crops, besides reducing the quantum of nitrogen and phosphatic fertilizers as reported by Gaur (1985), Musmade and Konde (1986), Gurubatham et al. (1989), Wange (1995), Chattoo et al. (1997), Thiiakavathy and Rammaswamy (1999) and Karuthamani et al. (1995). Keeping in view their significance present investigation was undertaken to assess the effect of bio-fertilizers Azospirillum, organic, and inorganic fertilizer alone and combination with bio-fertilizer Azospirillum, organic and inorganic under different level of organic manure and inorganic nitrogen on fennel regarding growth and yield in region of Bihar.