INTRODUCTION

The role of nitrogen in crop production has taken much attention from various investigators all over the world throughout the last 5 decades. The nitrogen cycle in soil is still presenting a very interesting subject to those seeking the achievement of efficient nitrogen utilization of both soil and crops. As it is well known that in addition to the uptake by crops, losses of nitrogen could occur through leaching of nitrite and nitrate from soil during irrigation, microbial reduction to introgen gas or conversion into various volatile nitrogen oxides and volatilization of ammonia.

Strawberry plant, as a perennial crop requiring 3 to 5 acre-feet of water per year, may result in leaching of some of the applied nitrogen fertilizer below the plant root zone. Strawberry growers, therefore, apply nitrogen fertilizers five to eight times per year to insure their availability during the critical plant growth periods. Others tried to establish types, rates, placement and timing of nitrogen fertilization so to achieve maximum uptake efficiency by plants.

Nitrification, a microbial process of oxidizing ammonium to nitrite and nitrite to nitrate, is regarded as a principal factor for leaching nitrogen out of the root zone of the plant. N-Serve, (Nitrapyrin substance) as a nitrification inhibitor would overcome

such leaching process of nitrogen fertilizers through retarding the microbial conversion of the relatively immobile positively charged ammonia into the readily mobile negatively charged nitrites and nitrates. Hence, it would undoubtedly enable strawberry plants to feed on ammonia as a good source of nitrogen other than nitrate.

The present investigation aimed at studying the nitrogen fertilization of strawberry plants in combination with different concentrations of nitrapyrin to obtain optimum conditions for fruit production with good quality.