INTRODUCTION
INTRODUCTION

The Strawberry (Fragaria x ananassa Duch.) is one of the most important soft fruits of the world. The fruit is attractive, luscious, tasty and nutritious; it has a distinct, pleasant aroma and delicate flavor. The strawberry is rich in proteins, vitamins and minerals (Plocharski, 1989); fruits are used for preparation of jam, jelly and squash and used in the cosmetic industry (Bergamachi, et al; (1996). Strawberry occupies a unique place amongst cultivated berry fruits.

Due to its wide adaptability, it is cultivated under a wide range of climatic conditions such as temperate, sub-tropical and tropical regions. (Saw and Larson, 2001; Hortynsk et al., 1991 and Ma et al., 1995). Though perishable nature of the berries is a limiting factor for cultivation of strawberry, it is becoming popular for its nice flavour, rich nutritional values and quick returns for the demands from star hotels.

It is fairly a good source of vitamin A (60 IU/100g of edible portion) and Vitamin C (30-120mg/100g of edible portion). Strawberry is also a rich source of pectin and it serves as an excellent ingredient for jelly making. Citric acid is most abundant organic acid in strawberry, followed by malic, succinic and oxalic acids. These acids determine the pH and the colour stability inhibiting the enzyme activity in the strawberry fruit. Important aroma compounds are ethyl haxanoate, methyl hexanoate, ethyl propionate, ethyl butanoate, methyl butanoate, furanone and linalool. The concentrations of these volatile compounds vary amongst cultivars and thus the aroma. It also contains lipids in appreciable quantity.

Strawberry (Fragaria sp) belongs to the family Rosaceae; it is a short, low growing herbaceous plant propagated through runners. The
cultivated (*Fragaria ananassa* Duch.) is a hybrid between *F. virginiana* and *F. chiloensis*.

The world production of strawberry was 2659000 MT in 1997 which increased to nearly 2671000MT in 1998 (FAO, 1998). Most of the European countries have been growing strawberries commercially since the eighteenth century. About 60 percent of the world’s production comes from Europe. Florida is the second largest strawberry growing area in the United States after California with about 3,360 hacters under cultivation and having gross sales over $330 millions (USDA, 2008). Florida, however, is the largest supplier of strawberry during the winter months in the United States and the majority of the strawberry production occurs in the west central part of the state. Strawberry yields in Florida have increased over the years due to the use of soil fumigation, raised beds with polyethylene mulch, defined fertilization practices and planting pest-free stocks from northern nurseries (Galleta, 1997).

Strawberry was introduced to India through the National Bureau of Plant Genetics Resources (NBPGR), Regional Research Station, Phagli (Simla) and Regional Horticultural Research Station, Shimla. But the early efforts made to popularize it’s cultivation in H.P and U.P received a setback on account of poor adaptability of the introduced cultivars, low returns per unit area and lack of technical knowledge on cultivation practices on strawberry. It is now being grown in Shimla, Solan, Bilaspur, Kangra, Kullu, Palampur (H.P), Dehradun (Uttaranchal), Saharanpur, Ghaziabad (UP), Ludhiana, Jalandhar, Patiala (Punjab), Gurgaon, Hissar, Karnal (Haryana), Bangalore, Coorg (Karnatak), Kodaikenal, Ooty (Tamil Nadu), Pune, Mahabaleswar (Maharastra) on small scales.
In India, strawberry cultivation has, however, become popular in plains and hilly areas of Himachal Pradesh, Jammu and Kashmir, Uttar Pradesh, Rajasthan, Punjab and Haryana as a low volume high value crop where adequate irrigation facilities exist. In recent years, its cultivation has also been extended from the temperate to the sub-tropical regions where this grows as an annual crop (Sharma and Badiyala, 1980).

In view of the growing popularity of strawberry in recent times, a study was undertaken with fourteen varieties at Krishi Vigyan Kendra, Bhanjanagar, Ganjam, OUAT, Bhubaneswar with the following objectives

- To assess the varieties for the yield and quality of berries under Bhanjanagar, Orissa conditions.
- To assess the nature and extent of variation to select suitable varieties for cultivation under Orissa conditions.
- To find out suitable combinations of NPK for growth, productivity, fruit quality and runner production in strawberry.