INTRODUCTION

Every year, the market has developed new products from citrus, such as blends of three juices *(Wagner and Shaw, 1978)*. In such a case especially in blend of juices, the challenge is to develop good tasting products to over coming the many of the unacceptable organoleptic changes that occur when sugar and/or other constituents levels are significantly increased .

Sportsmen and/or women are becoming more and more interested in how their diet affects sports performance. It is now recognized that the right diet combined with proper training and coaching can significantly improve sports performance.

By an increasing the number of sport people in the different countries have paved the way for changing food habits. Food stuffs of high calories and less side-effect are desired with the native items. Sensory and technological characteristics of these diet are different and will therefore influence their applicability.

So today more than before it is necessary of high energy and salts drinks for sports especially through a daily nutration and activity program. Drinks before, after and during exercises and matches are very important for sports.

The local market demand for sports diets has rapidly increased during the last few years. Previously, the local industry had to rely on imported products such as sports drinks. The sport drinks produced from the local fruits proved to be very suitable for the different food processing industries. Moreover,

the production of such drinks results in saving unnecessary expedite use of hard – gained foreign currency.

Anon (1992) studied that the total European market for sports drinks in 1991 was 23 million, and compared with USA and Japan, there appears to be a huge potential for growth in this area. Aspects considered are : major sport drinks consumption; ***Main (1991)***; and range of sport drinks (isotonic drinks, powder products, mineral drinks) whereas, ***Mohr (1993)*** showed that expansion of the sports drinks category in the US the number of sports drinks available has increased yearly with greater than 28 products available in 1991. Sales of sports drinks have increased by greater than 572% in the last 7 years. They also reported that the market for health or foods which make health clains with reference to : terminology; functional foods on sale; (sports drinks, fortified drinks, food drinks); and functional foods. The UK market for energy and sports drinks is discussed with reference to glucose energy drinks, high energy drinks containing ingredients such as caffeine and Turin, and isotonic sports drinks aspects considered include : factors affecting demand for energy and other soft drinks; market size and trends 1992-1997; sales by market sector; suppliers and brands; advertising and promotion; distribution and packaging; consumer attitudes to energy and sports drinks, and future trends and market forecast to 2001.

The main nutrients as carbohydrate, protein, fat, water, minerals and vitamins. Carbohydrates provide at least 50% of energy and brain function. Proteins are the body's building blocks needed for growth and repair of damaged cells and about

10-15% of energy intake should come from protein. Fats provide a concentrated source of food energy and help build body tissues, it contains vitamins A, D and E. Sports need a wide range of vitamins and minerals in the diet, they are needed in small quantities, water loss during exercise, so, need to drink extra water. ***Hopkins (1990)*** reported that sports drinks; designed to be consumed before; or during or after exercise; to maintain or replace water, glucose and electrolyte levels. Fruits and its products are the best source for water, vitamins and minerals, when supplements with sugars and concentrated milk it's a good sources for energy and amino acids and it was suitable for sports during exercises and matches.

THE AIM OF INVESTIGATION

1- Determination of chemical composition of different citrus juices.

2- Formulating different blends from citrus juices nectar.

3- Replacing the sucrose addition by adding honey and/or fructose and/or mixture of three sugars.

4- Fortifying the blends with concentrated milk , salts and vitamins.

5- Following up the changes of chemical and physical properties that occur in different citrus blends sport drinks and during storage at ambient and chilli temperature.