INTRODUCTION
Almost every aspect of life is deeply associated with the plants. The three great necessities of life—food, clothing and shelter and a lot of other useful products are supplied in great part by plants. The food which is of prime importance for sustaining the life, comes directly or indirectly from the plants. In a technical sense all plants are vegetables. The term, however, is usually applied to edible plants or plant parts which are eaten, cooked or raw as salad.

Vegetables not only adorn the table but also provide many specific chemical substances needed by our body for growth and maintenance of health. They form the most nutritive menu of man and tone up his energy and vigour. Vegetables supply many of the most essential health building and protecting substances, such as vitamins and minerals which are wanting in other food materials. The vegetables are rich sources of carbohydrates, proteins, vitamins, mineral elements needed for the proper growth and development of the human body. Of various mineral elements, calcium, iron and phosphorous are required in large quantities and vegetables are known rich sources of these elements. Iodine and sodium are also supplied by them. This is what makes them superior to food materials of animal origin and it is the reason that in countries like USA where animal protein and milk products are in abundance, the annual consumption of vegetables per capita is almost five times of an average Indian.
The turnip (Brassica rapa L.) commonly called as "Shaljam" is grown all over the world. It belongs to the family Cruciferae and is a native of Europe or Western Asia. Turnip has been grown for nearly 400 years and has spread from the original place to temperature Europe and then all over the world. The turnip is a biennial herb in nature, but is generally cultivated as an annual. It bears a fleshy, napiform white or red coloured tap root. Both roots and leaves are consumed cooked or as salad. The crop is sown during July and September or even later and harvested after 50-70 days. It requires loamy soil and frequent irrigation. The turnip (root) contains moisture 91.1; protein, 0.5; fat, 0.2; carbohydrates, 7.5; mineral matter, 0.6; calcium, 0.03; phosphorous, 0.04; iron, 0.4 mg; vit. A, trace; vit. B₁, 40 IU; vit. C, 43 mg/100 g (Anonymous, 1941). It is used in curries, pickles and medicine. Tender leaves are used as greens.

In India a large variety of vegetables belonging to tropical, sub-tropical and temperate group are traditionally grown and consumed as the majority of the country's population is religiously vegetarian. The daily minimum requirement of vegetables, according to a dietician, is 284 gram per head, i.e. 20 per cent of the daily requirement of the total food of an adult. The present production and consumption of vegetables in our country are very inadequate, the consumption being only about one-fourth to one-third of the requirement.
Inspite of the importance of vegetables in human life, the practice of growing vegetables has not been encouraging and this may be due in part to the reasons that vegetables like other plants are liable to the attack by pathogen like fungi, bacteria, nematodes and viruses. Virus diseases are important as they not only reduce the yield but sometimes render the whole crop unmarketable. There are various reports of viruses affecting turnip from all over the world. Viruses affecting turnip are: Turnip mosaic virus, cabbage black ring spot virus, radish P and R viruses, radish mosaic virus, turnip yellow mosaic virus, turnip rosette virus, turnip crinkle virus, cauliflower mosaic virus and beet western yellows virus.

A survey of the literature pertaining to the virus diseases of the turnip reveals that causal viruses are both spherical as well as flexuous type. Since the present virus consists flexuous rod particles, the reports of flexuous rods infecting turnip have been mentioned in the chapter of review of literature and those concerning with the spherical viruses have been intentionally omitted.

During the course of survey of virus diseases of vegetables in and around Aligarh district, a disease of turnip characterized by mosaic, mottling, deformation of leaves followed by their downward curling was found to be of wide occurrence. There is only one report of a virus affecting turnip in India, viz. turnip crinkle virus (Verma and Varma, 1961).
In the present investigation, an attempt has been made to identify the virus causing mosaic disease of turnip, *B. rapa* on the basis of symptomatology, host range, transmission, biophysical properties, purification, morphological characteristics of virus particle, some physico-chemical properties, ultrastructural studies of infected tissues and serology.