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ECONOMY IN FEEDING THE FAMILY
WHY WE MUST HAVE VEGETABLES

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Vegetables are an absolutely necessary part of our diet. This necessity has not been understood either by scientists or the public. Vegetables will be very scarce and expensive during the coming year—scarcer and more costly than ever.

The need of home gardens and of diligence in canning vegetables is even greater now than it was during the years of war. Then we grew food crops and saved all excess over summer need by canning, in order to feed our allies by lessening our own demand on the great export staples, such as wheat, meat, etc.

This year it is urgent that we grow and save these crops as never before in order to meet our own present and future food scarcity.

It is wiser to prepare for a food shortage now than to "wait and see."

Vegetables have been regarded rather as luxuries and relishes, furnishing a pleasant variety to the diet; but because they contain much water and only small amounts of the so-called nutrients they have not been regarded as very valuable food.

The fact that milk is a perfect food though nearer ninety than eighty percent of it is water ought to convince anyone that the nature of the dry matter in any food product rather than its quantity determines the food value.

The recent studies in nutrition in which this Station has had a prominent part, have proved that a diet, in order to support life and growth must contain certain substances, called vitamins, or food accessories, which are not taken account of in our analyses and which are not present or are quite deficient in some staple articles of food.

Thus a diet may contain protein, carbohydrates, fat and mineral matters, all in amount and quality well fitted to nourish, but unless vitamins are present in sufficient amount it cannot properly sustain the body.

The work of Drs. Osborne and Mendel at this Station, as well as of others elsewhere, has shown that both the water-soluble and fat-soluble vitamins are present in vegetables and in an amount not before suspected.

Some of their conclusions should be called to the attention of the public especially at this time.

"The newer studies indicating the richness of many types of plant tissues in those nutritive properties termed vitamins place the dietary importance of green vegetables in an entirely new light and emphasize their use to supplement the refined foods of the modern food industry which furnish products rich in proteins, fats, and carbohydrates, but in many cases comparatively deficient in the vitamins. The facts cited in the present investigation, along with others recently published, serve as an added reminder that the fat-soluble vitamins need not be sought solely in foods known to be rich in fats." (J. Biol. Chem. XLI, 557).

"It has been generally supposed that the fruits and vegetables are useful in the dietary solely because of the inorganic salts,

organic acids and the roughage which they supply. Now that some of these plant products have been found to be relatively rich in their content of vitamins we may revise our estimate of their value in nutrition." (J. Biol. Chem. XXXIX, 30.)

Heretofore tomatoes, in their season, have been one of the cheapest of fresh vegetables and one of the easiest to can for winter use. Moreover no canned vegetable is so generally acceptable or can be used on the table in such a variety of ways as this.

Dr. Osborne finds that this fruit is rich in *water-soluble* vitamins, the vitamin in its dry matter being more potent than that in an equal amount of the dry matter of spinach, cabbage, turnips, carrots or potatoes. The dry matter of beets was less potent than that of any of the above.

Tests of the *fat-soluble* vitamins in tomatoes also showed a potency superior to that of the other vegetables tested. This superior showing of tomatoes however should not dissuade from canning the other kinds of vegetables also, for all are valuable.

The practical lesson which needs special emphasis now is that those who have opportunity should grow or buy and can for winter use all the fresh garden vegetables which are possible in order to supplement and partly to replace the food which must be bought at high prices during the next winter. For all things point to a very "lean year."

From the lessons of the war-time the ways of growing vegetables and of preserving them for the winter have become common knowledge. The Agricultural College at Storrs and the Agricultural Stations are ready to give any further information which may be asked for.