

All sorts of different methods of sprouting the seeds were tried, including wooden tubs, shallow screen-bottomed trays and open bags. For use in mobile camps or emergency food centres an open bag was designed which is satisfactory for all types of seeds. It was found that the best temperature for sprouting was not too high, about 21 degrees to 25 degrees centigrade. Growing the seeds in light and in darkness was tried, and it was found that, while more sprouts grew in the dark, Vitamin C production was stimulated by light. A combination of light and dark was thought best; although the great importance of using sprouts for vitamins is that peas, beans and vetch do not require hot-house management for growth, but will grow almost anywhere and without much attention.

CONVALESCENT DIETS

Great progress has been made in the nutrition of ill and wounded persons during the war as a result of the efforts of medical and nutritional experts in Canada and in the United States in the army and in civilian life. Research and its findings have been shared co-operatively, and the entire theory of feeding convalescent patients has been revised.

The most radical departure from generally accepted procedure is the complete reversal of the theory that patients should be starved both before and after operations, during fever and throughout confinement to bed. It is now established that the old idea that a man in bed needs less to eat than a man at work is often fallacious. The man is in bed because he is suffering from some kind of damage, and his needs are therefore greater; not only does he need enough food to maintain a healthy man but also something extra for repairs. Energy requirements are increased after damage.

One of the most serious bio-chemical aspects of damage -- which includes burns, fractures, wounds and various surgical operations and infections -- is the loss of nitrogen from the body. This lost nitrogen may be restored either from food or from body protein. If the patient is being starved it necessarily derives from body protein which is used to supply calories to the body. Body protein is being lost in other ways: Protein tissue is being lost from the atrophy of disuse, particularly in bones and muscle; from ordinary wear and tear; from toxic destruction through such complications as infection, tissue damage, etc., and from hemorrhage. The loss of body protein results in loss of weight, slow healing and convalescence and increased liability to complications.

Loss of body protein is reflected by a negative nitrogen balance; that is, the body excretes more nitrogen than it absorbs. This is called by medical men the "Protein Catabolic Period," when protein is being burned up faster than it is being replaced. After a period the excretion of nitrogen falls much lower than the intake, and gradually a positive nitrogen balance is arrived at. This is known as the "Protein Anabolic Period." Nitrogen loss usually reaches its maximum in the first week after damage; as lost weight is regained and the wound heals an even balance is achieved.

The duration and degree of negative nitrogen balance depends on the nature and extent of the damage, including complications such as infection, and the age, sex, constitution and state of health of the individual at the time of damage. An interesting point here is that a healthy and well nourished patient requires much greater amounts of protein and calories to cause a positive nitrogen balance than someone who was run-down or chronically ill before his accident, wound or operation. The marked increase in nitrogen excretion after special protein diets does not occur in the depleted person.