

## NUTRITION

# New Ration for Cows

Is bulkier because of wartime scarcity in concentrated dairy feeds, but new diet for Bossie contains all essential food elements and is balanced.

► RATIONING for Old Bossie makes her let out her belt rather than take it in, because wartime scarcity of standard concentrated commercial dairy feeds has made it necessary to substitute feed-stuffs grown at home on the farm, and while these carry the same essential food elements into the cow's stomach they require more bulk to do it. Working out a balanced home-grown ration that will keep cows healthy and producing a full supply of milk is one of the tasks that has occupied dairy scientists at the New Jersey Agricultural Experiment Station.

Hardest part of the job has been to keep up the protein level; it was largely for proteins that farmers used to buy the now almost unobtainable concentrates like cottonseed meal. For proteins they also included grain in the dairy ration. Legume crops, especially alfalfa and soybeans, have provided the solution to the problem. They are fed partly as silage, partly as hay, supplemented of course with a few ounces of mineral salts. The typical ration as worked out contains two-thirds roughage and one-third corn whereas the ratio in pre-war times was half roughage, half grain. An experimental ration now being worked on looks toward the possibility of eliminating the corn entirely and

putting the cow on an all-alfalfa diet.

Another problem which the dairy farmer has had to face has been the lack of molasses. This imported product is normally used in wetting down the grass crops as they are packed into the silo; its fermentation produces the acid condition that prevents the silage from spoiling. Since the war has made molasses extremely scarce, it has been found practicable to use sorghum for the same purpose. Sorghum and soybeans are grown together and cut together for silage. The sugary sap of the sorghum pinch-hits for the lost molasses, and the soybean plants boost the protein percentage.

Of less immediate utility but great potential importance to the milk-producing business are experiments being conducted on the possible usefulness of sex hormones, or gland extracts, in inducing lactation in heifers that have never had a calf and are apparently incapable of having one. One such heifer, treated with the sex hormone known as estrogen twice weekly for 14 weeks, has been yielding 16 quarts of milk a day for several months. Another animal, a cow that had reached the "worn-out" age, has responded to a ten-week estrogen treatment by coming back to a daily yield of 10 quarts.

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new varieties that have been made possible through the hybridizing technique will never grow true to seed. Each seed generation is produced by crossing anew two utterly unlike parent strains, and if you plant seed from your own garden you will only get a most disappointing assortment of runts and freaks, with only an occasional good stalk among them, the results of what plant breeders call "hybrid segregation."

Easiest of all seeds to save are those of some of the large-fruited crops, like tomatoes, peppers and melons. All you need to do is split open the thoroughly ripened fruit, spread out the wet pulp containing the seed and let it dry. Then rub the seed out of the pulp and separate it. Peppers have virtually no wet pulp and are easiest to handle; tomatoes and cantaloupes vie for the messy distinction of being the pulpiest.

An even easier method for getting tomato seed, used for years at the New Jersey Experiment Station, is to dump the pulp into a jar with a little water and let it ferment until the pulp completely disintegrates. Contrary to expectations, this does no harm to the seed. They eventually settle to the bottom, leaving the frothy fermented pulp floating at the top. This is poured off, and the now well-cleaned seed are spread on sheets of paper or cheesecloth to dry.

Most experienced gardeners do not regard the saving of small seeds, like those of radish, lettuce and carrots, as worth while. These require combinations of soil, climate and growers' skill that are found in only a few limited areas in the country, where seed production is a speciality. Commercial production promises to be adequate for all anticipated needs.

Saved seed must be kept dry, and preferably cool. Insect pests must be excluded. The best containers are cans or jars with good tops, the latter perforated with tiny holes that will permit ventilation but not admit the ubiquitous hungry insects.

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## HORTICULTURE

# Preserve Garden Seeds

Hints on which seeds to save from this year's crop will help give you a good start on the 1944 Victory Garden. Not all seeds are worth keeping.

► VICTORY GARDENERS, most of their harvest laid by, can now busy themselves with plans and preparations for the 1944 season. One such activity that will certainly pay for itself is the saving of some kinds of seed for the Victory Garden of 1944. The U. S. Department of Agriculture and various state experiment stations are offering good suggestions along this line.

In general, the biggest seeds are

easiest to save and most worth saving. Hand-shucked bean seeds from your own garden are likely to be better than the commercially prepared kind, because the latter are put through a mechanical thresher which may injure some of them. This is especially likely to be the case with lima beans.

Among the larger seeds, however, is one kind that definitely should not be saved—hybrid sweet corn. The splendid

## ● RADIO

Saturday, Sept. 11, 1:30 p.m., EWT

"Adventures in Science" with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. Ruth F. Benedict, Lecturer in Anthropology at Columbia University, will tell how the knowledge of anthropologists concerning the populations of other countries is being used to make the war effort more effective.