PHYSICS

Infra-Red Rays Dehydrate

Drying lamps of relatively simple construction offer an easily controlled, rapid method of dehydrating fruits and vegetables.

➤ THE ELECTRIC radiant energy of infra-red drying lamps can be used to speed the dehydration of fruits and vegetables, Prof. John E. Nicholas, Pennsylvania State College agricultural engineer, told the American Physical Society.

Two years of experimental dehydration research by Prof. Nicholas shows that such apparatus offers ease of control as well as speed of dehydration.

"Dehydration requires removal of large quantities of water, thus reducing weight and bulk in any food preservation process," Prof. Nicholas explained. "Some loss of quality, vitamins, color and flavor occurs, but usually the shorter the time of processing the smaller the loss in quality."

Dehydration apparatus consisting of a structure supporting infra-red drying lamps was devised by Prof. Nicholas. He found that efficiency in drying by this method is due largely to the penetrating characteristics of the wave lengths of this type of radiation between 6500 and 14000 Angstroms. Drying begins at once with no preheating necessary. No enclosure is needed since infra-red rays penetrate the material and the method allows easy escape of water vapor. Thermocouple measurements of temperatures of a slice of apple five-eighths of an inch thick show that interior may be 20 degree Fahrenheit above surface after a 10-minute exposure at midpoint between two 250-watt lamps focussed towards each other at a distance of 10 inches. Tests were conducted with apples, spinach, beets, carrots, potatoes and celery.

Science News Letter, July 17, 1943

ARCHAEOLOGY

Greek Talking Places

For the forums where they debated political questions, the ancient Greeks developed architecture which survives today.

➤ GREEKS have always been heroes, from ancient Marathon to modern Argyrokastron. But they never have been the "strong, silent" type. They always liked to talk, and the record shows that they have talked well.

So much did the ancient Greeks like to talk, especially about that most perennial of all subjects for discussion, politics, that they were the first of all peoples to build special places in which to do it. Remains of these talking-places stand as earliest monuments to the first of the Four Freedoms: the freedom of speech.

Descriptions and pictures of all of these old Greek forums that have been excavated by archaeologists are presented in a new book, *The Political Meeting Places of the Greeks,* by Dr. William A. McDonald of Lehigh University, published by the Johns Hopkins Press.

These talking-places bore various names; agora, which means simply field or open space; ecclesia, usually translated as church but perhaps more accurately rendered by that grand New England name, meeting-house; geronticon, which would translate literally as place of the old men, or more conveniently, senate.

Throughout Greek history, and even in the pre-Greek culture of ancient Crete, such meeting-places followed the same basic pattern: rows of stone benches, curved into a horsehoe or arc pattern cut by converging aisles, rising one behind the other like a flight of steps, with a platform for the speaker and a raised place for the presiding officers in the focus of the arcs.

Once in a while the lines would not be curved but would follow the three sides of an open-ended rectangle. Usually the meeting-places were roofless, for the day climate of Greece permitted open-air sessions at practically all times.

It is interesting to note that the same patterns still prevail in modern legislative halls. The concentric horseshoe or arc type can be found in both houses of Congress and in most of the legislative chambers of the various state capitols. The rectangular arrangement is classically developed in Britain's House of Commons, and on a smaller scale in the first American national assembly place, Independence Hall in Philadelphia.

Science News Letter, July 17, 1943

AGRICULTURE

Seeds in Paper Sheets Used for Quicker Sowing

➤ FOR QUICKER and more even sowing, two New York inventors, W. H. Woolf and P. P. Korn, distribute seeds in rows on sheets of paper, over which other sheets, slightly corrugated, are laid and then bonded down under pressure with an adhesive. One of the sheets is perforated to permit the easy emergence of roots. The whole sheet is laid on the soil and watered, becoming at once a moisture-gathering and weed-discouraging mulch. Patent 2,323,746 has been issued on this invention.

Science News Letter, July 17, 1943