Behind Closed Doors

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Margaret Kumlien explores current research problems developing in home economics

NOT ALL research is done with test tubes and microscopes! A peek into tucked-away corners in the Home Economics Building reveals many a fascinating study going on daily. What takes place behind those closed doors?

Candle-holders, every conceivable kind you can think of, and some you can't, are the subject of one study being made in the Applied Art Department. A careful investigation of their history from way back, as well as original designs for modern use, is an important part of the problem.

Designs are made for modern candlesticks of varying sizes, shapes and mediums, which are then actually created out of wood, brass, pewter, copper and plexiglass, a new pliable material with a brilliant future predicted. History shows that candlesticks seem to follow closely the design of the furniture of a particular period, which bears out the conclusion you have already reached—that modern candle-holders are characteristically simple and functional.

Have you ever wondered whether it made a whit of difference in the amount of heat used if you stuck four biscuits or sixty in the oven at once? That is exactly what the Household Equipment Department wants to find out in a problem to determine the effect of the size of the load on fuel consumption and browning of the product. A gas oven with carefully controlled temperature is being used.

Because your mother’s electric beater and somebody else’s electric beater differ considerably, an experiment is being conducted to find out the effect of different shapes of blades on the texture of egg whites. Angel food cakes are used as a means of testing. Incidentally, a part of the problem is to see whether or not an electric beater may be used for the entire angel food process. Frozen egg whites are used in the experiment. Purdue and Nebraska are cooperating with the equipment department here on this problem.

Another study in the same department is being made to compare soil removal efficiency in various types of gyrator agitators in electric washers. Squares of stained cloth are sewed on towels and washed under exacting conditions. Here science has contributed a new apparatus called the reflectometer which eliminates subjective judging of washer efficiency, for it reads the amount of reflected light by means of a photoelectric eye.

In cooperation with the mathematics department, a household equipment graduate is determining the absolute efficiency of different electric range surface units. A device to prevent the escape of any steam from the surface of pans of boiling water insures greater accuracy.

A fresh, green head of lettuce may turn brown and wilt after 2 or 3 days of storage in an ice refrigerator, or may remain crisp and fresh for as long as 14 or 15 days' storage in the same refrigerator, depending entirely on the container in which it is kept, according to recent experiments in the Household Equipment Department.

The study was made by Miss Virginia Berry, H. Ec. Grad., to determine dehydration and other changes occurring in foods stored in ice refrigerators.

Seven top-icer refrigerators and one electric refrigerator were placed in a temperature and humidity-controlled room, and experiments were conducted to determine types of containers best suited for certain foods. Odor and flavor transfer and analysis of temperature differences in the food compartments of the refrigerators were also studied.

In the case of all succulent vegetables, with the exception of tomatoes which have a skin covering, storage in covered containers prevented much loss of moisture and kept them fresher, according to Miss Berry. Lettuce kept crisp longest in a closed container such as a seal sac or closed zipper bag, while ventilated hydrators or lettuce bags allowed greater hydration. Apricots and peaches kept better if stored covered, while plums and pears lost less water.