



**FLYING NUN**—The only Catholic Sister to hold a civilian pilot's license uses these model airplanes in teaching aeronautics at Catholic University this summer. Her students are in training to conduct high school pre-flight courses next fall.

## AERONAUTICS

### "Flying Nun" Will Teach Aeronautics at University

► SISTER M. Aquinas, O.S.F., the only American "flying nun" who holds a civilian pilot's license, will teach aeronautics at Catholic University in Washington this summer.

Sister Aquinas is a member of the Franciscan order. She wears the traditional habit of her order when she flies, and she says it gets less in her way when she is flying than when she scrubs floors.

Two courses will be given under the "flying nun's" direction. The first will be tuition-free and is given under the direction of the Civil Aeronautics Authority. Another, longer course will be a part of the regular summer session of the university. Both are intended to provide high school teachers with intensive instruction for teaching pre-flight aeronautics classes.

Sister Aquinas is a university graduate in physics and is instructor in science and aeronautics at Ambrose High School in Ironwood, Mich.

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## CONSERVATION—NUTRITION

## Deplores Farming Evils

Food shortage may become permanent in America as destructive farming practices waste land through erosion, speaker warns at Conservation Conference.

► FOOD SHORTAGE may become a permanent, gaunt, unwelcome guest at the American table, instead of the fleeting specter it is now considered to be, if bad farming practices of the past are projected into the future. Such was the warning of Louis Bromfield, novelist-agriculturalist and vice president of Friends of the Land, before the meeting in Tar Hollow, Ohio, of the Second Annual Conference on Conservation, Nutrition and Human Health.

Farms increase in size and diminish in number from decade to decade, Mr. Bromfield pointed out, deploring the passing of the small farmer with his family-sized farm.

Factory methods on the farm, especially the practice of concentrating on the production of a single cash crop over wide sections, the speaker regarded as especially pernicious.

Mr. Bromfield also pointed out our national failure to replace our forests as fast as they are being depleted:

"This was largely a forest country and for more than a hundred years we have been cutting down forests recklessly, until now even the worst offenders, the lumber and paper-pulp industries, are alarmed over the fact that in a few more years their supply of raw material will largely have vanished. And this at a time when the uses of wood are supplanting metals, wool and other fundamentals to a degree which establishes what might be called a 'wood economy'.

"Worst of all, little effort has been made to restore our forests. We have only to look at Europe to realize the vital importance of trees, not only to peace but to wartime economy. . . . Forests require lifetimes to grow. They are not made over night."

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### Humans Need Mineral Salts

► MINERAL SALTS in our food, mentioned nowadays in a rather vague and general kind of way, need to have far more specific attention, Maj. Zolton T. Wirtschafter, chief of the section of civilian medicine and industrial hygiene,

Army Medical Corps, declared before the conference.

Current nutritional discussion gives great prominence to vitamins along with the older trilogy of carbohydrates, fats and proteins, but water and mineral requirements still receive only slight emphasis, the speaker pointed out. Yet for normal health the body needs some 15 distinct mineral elements. Moreover, for most of them its requirements are quantitatively very specific; too little of any given element will be followed by certain definite symptoms of ill health; too much of at least some of them will provoke other maladies.

Requirements for minerals change from age to age. Thus the unborn infant's tissues contain much more sodium than those of a newborn child, and more than twice as much as those of an adult. The bone-building elements calcium and phosphorus, on the other hand, are present in much smaller quantities in babies than in grownups.

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### Iodine a Critical Mineral

► THE CRITICAL ROLE of iodine in human physiology was discussed by Dr. George M. Curtis of the Ohio State University. One ill that has been spared our enemies, the Japanese, almost altogether is goiter, he pointed out. This is because of their widespread use of seaweed as food; seaweed contains iodine which prevents the distressing swelling of the thyroid gland.

Although the goiter-preventing activity of iodine is perhaps its best known health-preserving effect, it is apparently necessary for the maintenance of normal bodily functions in a number of other less conspicuously marked ways, and even for the sustaining of good mental health.

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### Soil for Human Nutrition

► GETTING MINERALS into the human system is a kind of chemico-biological triple play: soil to food to us.

Some of the striking effects of the proper "feeding" of the soil with needed minerals were discussed by R. H. Lush, pasture specialist of the National Fertilizer Association.

Not only does the proper application of minerals to the soil improve the quality of vegetable and animal foods derived from fields and pastures, it greatly increases their quantity as well, the

speaker declared. Liberally fertilized pastures on one farm in Maine produced over 4,000 pounds of milk per acre compared to about 760 pounds of milk on the unfertilized native pasture. In another test, it was found that one pound of properly adjusted fertilizer was responsible for increased grass production sufficient to become eventually 24 pounds of milk or three pounds of beef.

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AGRICULTURE—ENGINEERING

## Dehydrating Is Work

**Housewives are warned that home food dehydration is designed to save food, not to minimize work, and that great care is necessary for success.**

➤ HOUSEWIVES who expect to save labor by home food dehydration will be disappointed for it saves food and not labor, George W. Kable, editor of *Electricity on the Farm*, told the meeting of the American Society of Agricultural Engineers in Lafayette, Indiana.

Both canning and freezing require less labor and equipment. But dehydration is common kitchen talk throughout the country since other methods of food preservation are limited by the war and since dehydrated foods are used by the armed forces.

Dozens of bulletins have been issued and no less than forty manufacturers have indicated that they would like to build home food dehydration equipment. Materials have already been set aside to build 100,000 electric units this year.

Leading commercial food processors are also interested in home dehydration, Mr. Kable pointed out, and with good reason. They have invested more than \$100,000,000 in the industry, it is reported, to dehydrate upwards of two billion pounds of foods for the armed forces and lend-lease this summer.

"When the war is over they expect to sell dehydrated products to the public," he explained, "and they want to see to it how that the public taste for dehydrated foods is not ruined by poor products coming out of kitchen dehydrators."

Some of the well-designed small dehydrators have produced dried foods equal to commercial products in quality, but Mr. Kable warned that the same intelligent care in handling before and during drying is as necessary as with commercial size units.

"Whether housewives are pleased with their home dehydrated products

next winter will depend as much or more on how well they have learned and followed the correct procedures in dehydrating as on the drier they use to remove the moisture."

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## Greater Farm Yield Needed

➤ IN HIS ADDRESS as president of the American Society of Agricultural Engineers, Prof. H. B. Walker of the University of California Agricultural College expressed satisfaction at the government's policy of permitting more farm equipment to be manufactured, as a means for obtaining higher yields for the furtherance of the war effort.

Greater production, however, does not call for plowing up more acres, the speaker pointed out:

"While the agricultural policies of our nation during a decade or more, based as they were on a program of scarcity, have contributed to some loss in potential productive capacity, and a greater dependency upon food imports, this fact is evident, that at the moment we have no real need for added farm land area. The problem today is to provide the facilities to get the most from the land already available. This is basically a simple problem, even though it may be difficult of attainment in wartime."

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## Engineering Training Given

➤ MORE than a million young men and women have received special training in engineering, scientific and technical subjects, to fit them for specific tasks in the armed services and in the nation's indus-

trial war effort, Dean A. A. Potter of the Purdue University engineering department told the meeting of the American Society of Agricultural Engineers.

This does not mean, however, that we have added a million engineers to our professional ranks. The courses given are to a large extent below college level, are designed specifically for particular ends, and do not lead to degrees.

"It is to be hoped," Dean Potter added, "that the experience which our engineering colleges have gained through the war training programs will be capitalized by them during the post-war period, not only in improving their regular programs of study leading to degrees, but also in establishing a large number of technical institutes all over the country with intensive practical programs closely linked to the needs of the industries in the communities."

There is an extreme need, Dean Potter continued, for fully trained engineers, which is not being met by the present regular programs of the engineering schools. The National Roster of Scientific and Specialized Personnel estimates that 40,000 to 50,000 additional engineers will be needed during 1943 and that the potential college production during the current academic year is only 17,000.

Intensive efforts are being made to close the gap, which the speaker described. Thousands of young men in V-1 and V-7 classifications are being given special courses in a number of colleges, under Navy and Army auspices, and they will be given V-12 classification and assigned to continue their studies on completion of the preliminary courses. By streamlining the professional curricula, and by cutting vacations to a minimum, it is expected that a new supply of well-trained engineers can be brought out in much less than the conventionally required time.

One hitch looms: unless the present Selective Service regulation on deferment is changed to extend the period beyond July 1, 1945, "a serious gap in the continuity of supply of engineers will develop very shortly. In general, the needs of our war industries will not be fully satisfied unless an 'industry reserve' or some other scheme is set up . . . for the purpose of insuring an adequate supply of engineers."

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A New England shipyard with 26,000 employees has among them approximately 2,600 women doing work ordinarily done by men.