#### **Protein From the Sea**

(Continued from p. 87)

flour rulings and turn the wheels of production.

Fish meal, a product made from the same substances as fish flour but not sufficiently processed for human consumption, has been used successfully for many years to feed livestock and poultry in this country and foreign lands. Fish oil and fish solubles are used in many drugs and medicines as well as foods daily on our tables.

The processing of fish meal and fish oils is essentially the same as that for fish flour, except that processing is not as intense or pure. The meal is now widely distributed, increasing in production yearly.

As fish meal has come to be judged on its known nutrients, it has become more directly competitive with vegetable protein feeds. Thus it is possible that fish flour could become competitive with vegetable protein products in cereals and flours.

Vegetable and meat scraps and by-products have long been used in a variety of products for animals, plants and man. Bone meal is known to increase plant growth. Oil seeds and plant scraps are used in a number of growth stimulators, food additives or medicines. Artificial or dehydrated products are added daily to the growing list of salable items.

Fish flour would probably compete with condensed or dehydrated milk because it is low in cost and does not spoil easily. The fish powder would, however, contain more of the essential vitamins, minerals and proteins than dried milk and be much more abundant.

The United States could break into another field of world leadership with the production and inexpensive distribution of the most promising food miracle: fish flour.

Science News Letter, 82:87 August 11, 1962

**AGRICULTURE** 

### **Unshielded Cultivation Boosts Herbicide Kill**

➤ MORE EFFECTIVE ways of using herbicides and cultivators to control weeds in cotton appear likely through research by United States Department of Agriculture and the Mississippi Agricultural Experiment Station.

One of the most significant fiindings of the research is that unshielded cultivation can be used in fields treated with preemergence herbicides. In the past, only shielded cultivation was used in such fields to avoid disturbing treated soil.

Agricultural Research Service agronomist J. T. Holstun, Jr., found that unshielded cultivation late in the season actually supplements preemergence application of diuron, a herbicide of low volatility widely used in cotton. Soil thrown into the row covers and kills very young weeds not killed by diuron and also kills some weed seedlings that develop after diuron loses its effectiveness.

A combination of preemergence and postemergence herbicide applications, supplemented with unshielded and shielded cultivation, gave most satisfactory weed control.

• Science News Letter, 82:95 August 11, 1962

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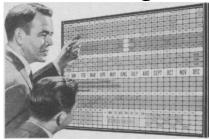
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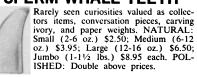


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