GENETICS

More Meat and Milk

Improved livestock will produce a greater proportion of meat and milk for us. "Sky is the limit" to the increased production if nutrition and environment are suitable.

➤ GOOD NEWS for livestock breeders comes from two British scientists, one a geneticist, the other an animal physiologist, who gave their views on livestock improvement at the recent meeting of the British Association for the Advancement of Science at Edinburgh.

The scientists were concerned with the responsibility of improving livestock so that they produced a greater proportion of meat and milk for our table.

The geneticist, Prof. R. A. Fisher, of Cambridge University already renowned for his work on the inheritance of blood groups, noted that "livestock improvement at the moment is, from the genetical viewpoint, like a chemical industry of national importance in which the experts know of very few elements, though they suspect the existence of a great many more."

Because of this Prof. Fisher is optimistic that a great deal remains to be done in the genetic improvement of our livestock.

"Land long fallow is sometimes very productive; unworked gold mines are the best gold mines," Dr. Fisher said. "Because nothing effectual has been done, we may at least feel that the law of diminishing returns has not yet set in and that the ceiling of genetic potentiality is still a very long way off."

Dr. John Hammond, Cambridge University physiologist, was even more optimistic about the physiological possibilities of getting more meat and milk from our livestock.

Posing the question: "What are the physiological limits to increased production in animals?" Dr. Hammond then emphatically answered his own question with "There are none!"

"The sky is the limit," he said, "provided suitable nutritional and other environmental conditions are given."

Listing the priority claims of the various body tissues for the feeding stuffs the animals consume, Dr. Hammond said it was well established that brain and bone had the highest priorities, with muscle and fat lagging behind.

In order to get the maximum edible muscle and fat in return for the feedstuffs we put into our livestock, we must aim for the type of animal that has a small head and legs in proportion to the rest of its body—and indeed that is the formula which has been used with great success in the development of our market hogs and beef cattle.

"But," added Dr. Hammond, "evolution in this respect has not yet finished. We now have the faster-than-sound plane. Why should there be a limit to the animals' production, provided we have the right construction and the fuel to drive it?"

Science News Letter, September 15, 1951

AERONAUTICS

Refueling in Air Aided by Tanker Plane Belly Lights

➤ REFUELING AIRPLANES in the air is made easier by belly lights on the tanker plane which let the pilot of the receiving craft know when he is in correct position for the proper placement of the fuel tube which brings gasoline from the tanker above into his tanks.

These so-called "traffic lights" on the underside of the tanker have a green light and four red ones. The green indicates proper position. The four reds, each bearing its own code letters, show the pilot if he is too far forward or too far to the rear for the proper reception of the feeder tube, or if he is too high or too low in the air.

The traffic light system is designed to replace communication between the planes by radio as is now done in refueling in the air. One great advantage is that the lights make refueling at night about as easy as in daylight. They are already on trial on Boeing tanker planes in the U. S. Air Force service.

Details of the system were given at the meeting of the Illuminating Engineering Society in Washington by Alston Rodgers of General Electric, the company that developed the new sealed beam lamp that is used in the lighting. When the telescoping section of the fuel-feeding boom is extended to the proper length and the boom's elevation angle is correct, the green light glows, he said. If the receiving plane gets out of position, the green fades and one of the reds brightens up, telling the pilot which way to move.

Science News Letter, September 15, 1951

***AIRPLANE TRAFFIC LIGHTS—** To guide pilots during a mid-air refueling, "traffic lights" are being installed on Boeing tankers. The center panel remains lighted green when the two airplanes are in proper contact. When the planes are not in correct refueling position, one or two of the four direction panels flash red with the necessary instructions.*

PUBLIC HEALTH

Wild Birds Carry Virus Causing Encephalitis

➤ WILD BIRDS are the natural reservoir for the virus of encephalitis, scientists of the U. S. Public Health Service's Communicable Disease Center have discovered.

Encephalitis is a brain disease sometimes called sleeping sickness because of the drowsiness which is one of its symptoms. When it attacks horses, it is known as blind staggers.

Certain species of mosquitoes carry the virus and it has for many years been suspected that wild birds constituted a reservoir. Proof of this has now been obtained by the Public Health Service researchers who found the virus twice in redwing blackbirds and once in magpies living under natural conditions.

The discovery was made by a team of scientists at Greeley, Colorado, working under the direction of Dr. T. Aidan Cockburn at the office of midwestern CDC services at Kansas City, Kans.

Science News Letter, September 15, 1951

CHEMISTRY

Make Red Paint From Pickle Liquor Waste

➤ RED PAINT can be made from waste water from iron processing industries by a continuous automatic salvaging process reported to the American Chemical Society Diamond Jubilee meeting in New York by Drs. C. C. DeWitt and M. D. Livingood of Michigan State College at East Lansing.

They found that pigments ranging in shade from black through brown to bright red were obtained from liquids like those from industrial pickle liquors in a study carried on at Michigan.

The scientists then built a pilot plant to oxidize and concentrate the red pigment by continuous process.

Science News Letter, September 15, 1951