

# FIGHT AGAINST FAMINE

By BOB JONES



Seldom, if ever, have so many people worked so hard in so many ways to prove one man wrong. More than half the people in the world are involved in this effort. Missourians and MU alumni are playing major roles.

The man we are determined to refute is not Marx or Mao. He is T. R. Malthus. In 1798 Malthus announced his alarming theory that the world's population is doomed to surpass the limits of its food production possibilities. He foresaw an ugly day when we would go down before the relentless onslaught of the four horsemen — Famine and Pestilence and the consequent War and Death.

There have been times — some fairly recent — when it looked as if Malthus' thinking would turn out to be tragically and disastrously correct. Today the effort to provide adequate food for the world's 3½ billion mouths moves forward on two principal fronts, and the University of Missouri-Columbia is a leader in both of them.

Two thirds of the world's population live in countries where the average diets won't be adequate this year to maintain minimum health. They won't be adequate next year either. That's why short-run help must be provided immediately for the starving and undernourished.

Longer-run help depends on the export of ideas, knowledge, technology. Give a man a bowl of rice and you feed him for a day. Help him to produce his own rice and you feed him for the rest of his life.

To do the latter, MU researchers and Extension staff members are working in various locations around the world. The center of this research, of course, is the Columbia campus. Here a hundred or more scientists in at least nine departments of the College of Agriculture are searching for ways to prove Malthus wrong. The

results of their work usually strengthen both fronts in this feed-the-world effort.

New practices boost production in this country and increase the quantities available for export. New practices also can be adopted in foreign lands to increase their food production.

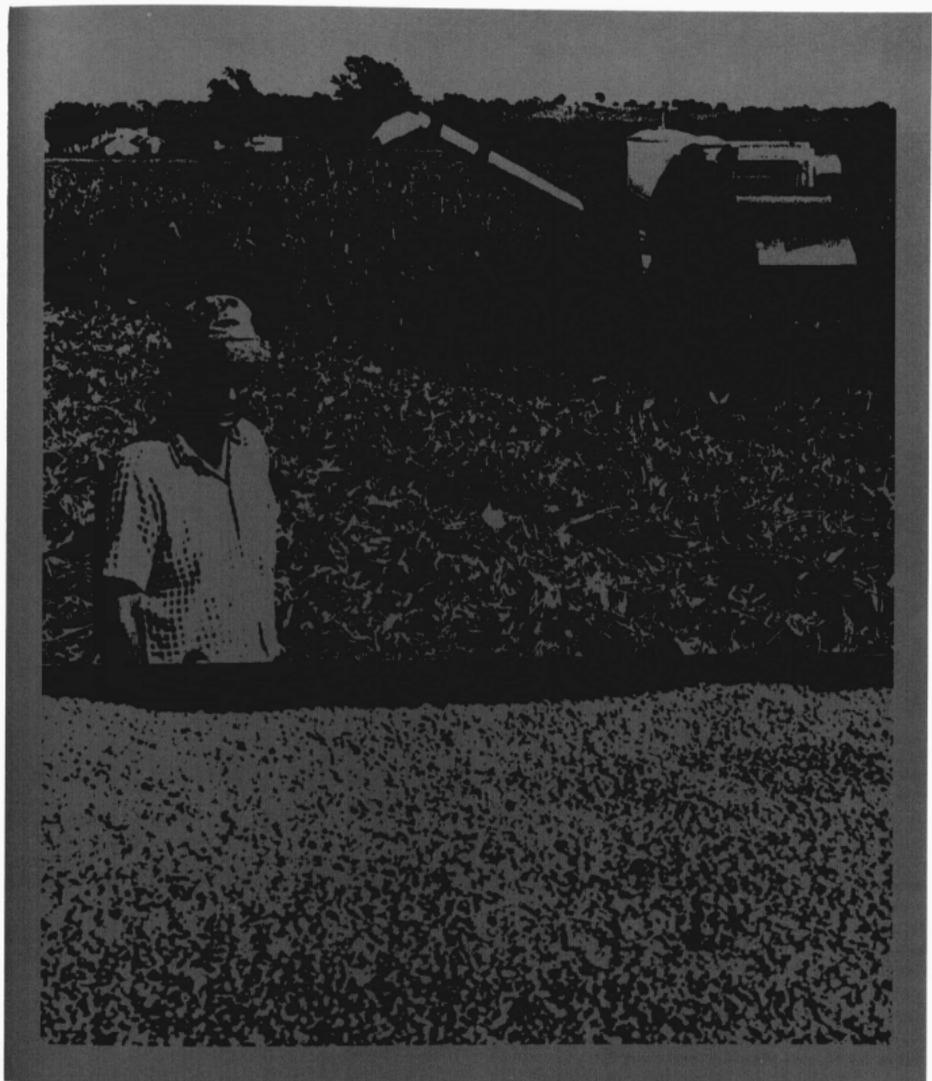
To deliver, explain, and demonstrate these Missouri-developed ideas in needy foreign areas, we have 17 staff members at work on AID and FAO programs in India, Malawi, Colombia, and other countries. As part of these programs, there are 30 foreign students on the Columbia campus to learn food production tech-

niques and practices that they can take back to their countries. MU is not the only institution that is deeply involved in this very real life or death campaign — far from it. However, the MU contributions have been and continue to be significant.

Soil conservation is essential to food production and MU has been a pioneer and leader in this work. Says MU Agronomist C. M. Woodruff, "It was in Columbia 65 or so years ago that a research project showed how some fields were losing more fertility by erosion than by crop production."

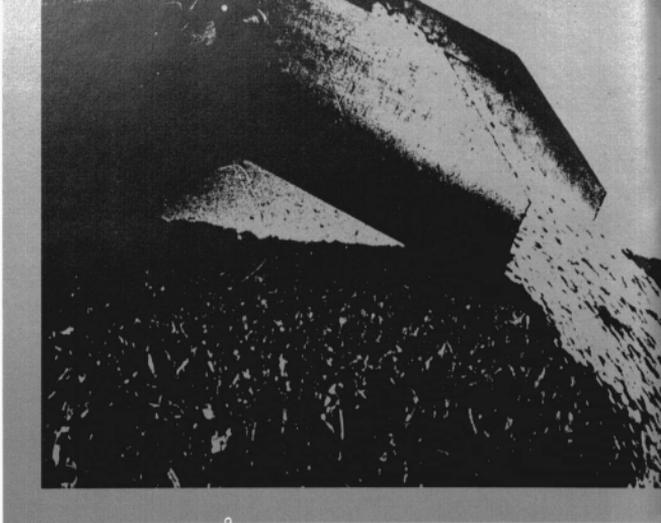
As late as 1914, the University had the only data on erosion when Congress asked for a national review of the problem. Today, much of the erosion control work around the world is based on MU studies, both past and present.

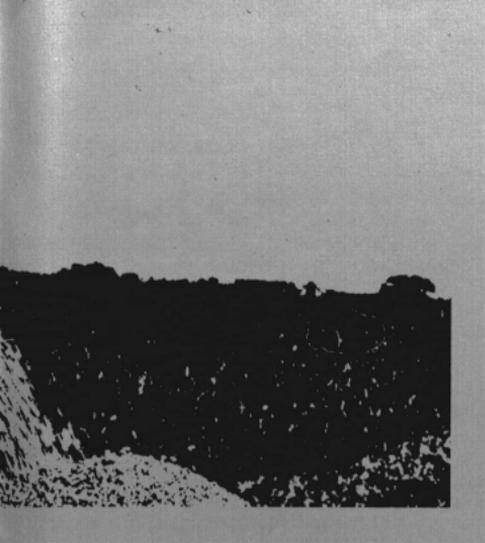
Remember those scrawny oxen and other creatures of burden used in so many underdeveloped countries? Our cattle crossbreeding project at the North Missouri Research Center is providing information on livestock breeding and hybrid vigor. "These principles will be largely transferable to native livestock breeds to help





Geneticist M. S. Zuber of MU's Agronomy Department, sorts kernels of corn on light table to find high lysine, opaque 2 gene.





livestock owners in hungry nations improve their cattle for meat, milk, and draft purposes," explains A. J. Dyer of the Animal Husbandry department.

Another major advance in cattle production has come through artificial insemination. This technique provides rapid herd improvement for Missouri livestock men as well as for herds around the world.

No amount of food will turn back the Four Horsemen, however, if vital diet elements are missing. MU nutrition work again points the way. Ag Chemist Boyd O'Dell was the first to show how human beings on supposedly good rations can suffer zinc deficiencies and resulting poor health. Other trail-blazing nutrition research has been done at Columbia. Presently, scientists in Ag Chemistry, Poultry, Animal Husbandry, Food Science and Nutrition, Home Economics, and the School of Medicine are pushing ahead on diverse but related nutrition projects.

When a cow produces barely enough milk to save her calf, there's precious little available to feed starving children. Too often, this is the case in backward countries. There, the cow's feeble flow of milk is measured in quarts per

year — far short of the 1500 gallons per year from the average DHIA-tested Holstein in this country.

Putting pasture to its best use has long been an MU strong point and this research continues. Already, the studies have provided ways to keep the milk flow turned on when grazing has ended. Dairy department experiments have even shown how a change of milking pace can add to the total yearly milk flow per cow. These are simple ideas that, quickly and easily, can be put to advantageous use by people in other lands.

And consider fertilizer use. It was MU agronomists that showed the world how crop production can be increased and soil fertility maintained indefinitely, even under continuous cropping.

Some of the first work in genetics of corn crops was done at MU and the vast gains in hybrid corn production have gone far to feed the beeves and fill the bins of the world. Today's corn researchers at MU are looking at high plant population, narrow row, irrigation tests aimed at 200 bushel-per-acre yields. They also are studying sod-planted corn for hillside farming. And they are working on special higher protein varieties that will give a tremendous boost to corn's value as food or feed.

There are parts of this world where it's a fortunate man who owns a sow which delivers nine pigs each year. In Missouri we expect 18. Imagine the food increase when pig production around the world reaches 24 per sow per year. B. N. Day's current research at MU shows that sows can be stimulated to farrow larger litters and that 24 pigs per sow per year is in fact a modest goal. At that, it would be a 33 to 160-per cent increase with no additional breeding stock.

Plant and animal diseases, insect control, soil chemistry, livestock rations, multi-row machinery, new crop varieties, herbicides, improved seed stocks, advanced practices — in these and other battle areas the University has taken the lead. We have challenged the horseman of Famine first. When he is vanquished, we will be well on our way to victory over Pestilence and War. And you can rest assured, we will have made Death stand farther away. □

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