

Will there be enough land?

WASHINGTON, D.C. — The question is not new. It is often asked when famines strike in Africa or the Asian subcontinent, or when a drought hits the Midwest. It has usually faded away

fairly typical amount for U.S. agriculture.

While it's true, as some point out, that "they're not making any more land," the United States is a long way from running out of it. Our

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with a return to agricultural surpluses and government programs to idle land.

The question is asked again today, for reasons old and new: the recent rise in U.S. farm exports, a fear that gains in agricultural productivity are slowing, conversion of farmland to urban uses, continued erosion, proposed use of farmland to produce energy, and declining water tables in agricultural areas dependent on irrigation. The fact that less of our cropland is now being held idle heightens these concerns.

The United States has a land area of 2.26 billion acres. The Federal Government owns 751 million of these acres. Urban land accounts for 69 million acres, and land in transportation rights of way, water impoundments, and other nonfarm uses 82 million. Subtracting these acreages leaves 1.36 billion acres of rural land, which the Soil Conservation Service classified in 1977 as follows:

- Cropland - 413 million acres.
- Pastureland - 133 million,
- Rangeland - 414 million,

agriculture is far less intensive than that of Japan and other densely populated countries. The real question is how much and what quality of land will be made available for food and fiber production. The answer depends on economists, technology, and public policy.

In 1977, SCS identified 127 million acres with high or medium potential for conversion to crop uses. Based partly on the profitability of conversion at cost-price relationships prevailing in 1976, the potential acreage, if all converted, would boost total U.S. cropland 30 percent to about 539 million acres. In the past few years, crops — particularly soybeans in the south — have been more profitable than cattle; therefore, a significant amount of pasture has been converted to crops.

The Corn Belt and Delta, two of our most productive regions, have almost 25 million acres of potential cropland for expansion of crops like corn and soybeans. Potential cropland in the Corn Belt is now

climatically suitable only for wheat and sorghum. In the drier portions of these regions, increased wheat production would typically require two acres to get one acre of harvested wheat, with the other acre being kept in cultivated summer fallow. The economic feasibility of converting to crops in these regions would be severely restricted by the reduced supply of higher costs of irrigation

less worrisome than the impact other forces are having on available cropland. Also, future modest increases in yields per acre could offset such loss of cropland. At least, this has been the case in the past.

Interpretation of the data is made difficult by the inevitable shifting of land in and out of crops. Also, it's debatable how permanent these shifts from rural to

mining coal as well as for producing alcohol from crops.

The Energy Security act of 1980 calls for 10 percent of annual U.S. gasoline consumption by 1990 to come from alcohol — 11 billion gallons, assuming a total U.S. consumption of 110 billion. If half of this alcohol were to come from corn, 12 to 20 million additional acres of cropland would be needed (the range depending on how much feed byproducts from alcohol production are utilized). If corn were the sole source of this alcohol, the additional acreage required could run as high as 39 million acres. However, if the current softness in oil prices continues, it is highly improbable that this demand on cropland would materialize.

The productive capacity of U.S. agriculture depends not only on the availability of land but also on how much can be produced on each acre. Indeed, doubts about the

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water. Moreover, since much of this land is now used for grazing, livestock production and incomes would be affected by such conversion.

Conversion of potential cropland in the Southeast and Appalachia, totaling 30 million acres, would require the clearing of considerable forested land, erosion control in upland areas, and drainage in lower lying areas.

Smaller potential acreages are found in the Northeast, the Lake States, and the Mountain and Pacific States. Cost-price relationships in 1976, used by SCS in making these potential cropland estimates, were not especially favorable to agriculture. Prospects for higher farm income increase the potential for crop uses. Sustained higher income would lead to actual conversion.

The physical and economic potential for conversion to crop uses is only one part of the story. Competition between food and fiber production and nonagricultural uses is another. Recently, the question of land availability has been prompted especially by the reported loss of farmland to urban uses.

According to SCS data, up to 875,000 acres of cropland or land with high or medium crop potential were converted each year to urban and built-up uses between 1967 and 1975. While some fear this record will continue, others suggest that the conversion rate has slowed in recent years. Some maintain that even if the numbers are correct, an annual loss of 875,000 acres from a cropland base of 539 million — one-sixth of 1 percent a year — is far

urban uses are. Not all of the land goes into high-rise apartments and shopping centers. And just as higher crop returns will stimulate conversion of rural land into crops, they will also — if high enough — slow conversion of land out of

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farming.

Problems will arise, or worsen, in certain states and localities experiencing a loss of cropland or decline in productivity. On the state and local level, conversion of farmland to urban uses or depletion of ground water may be seen as a problem requiring immediate remedial action, even though adequate cropland exists for the nation as a whole.

The potential use of cropland for energy production is another, though relatively new, concern. This includes land used for strip

future nonland sources of productivity growth are often the real basis for the question, "Will there be enough land?"

Our traditional land orientation tends to obscure the fact that land is only one of the resources required in agriculture. True, we still need soil to produce most of our food, but science may one day change even that.

U.S. agriculture's past productivity growth is well known. Between 1910 and 1980 farm output increased 250 percent, while total

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- Forestland - 376 million, and
- Other - 23 million.

When people ask, "Will there be enough land?", they usually mean cropland. The total acreage classed as cropland has not changed much for several decades. However, the acreage actually used in crop production has varied greatly.

Of the 413 million cropland acres in 1977, about 377 million were actually used for crops — near levels reached before and immediately after World War II. The rest, about 36 million acres, was idle, in soil-conserving uses, or short-term rotation pasture — a

largely in pasture, which, though converted more easily than land in other uses, would still need erosion-control measures or drainage for regular cultivation. Conversion of much of the Delta's potential cropland would require more expensive clearing of forestland or drainage.

The Northern and Southern Plains have the largest reserve of potential cropland (38 million acres). However, much of this land has erosion problems or is

Actual and Potential Cropland Acres, 1977*

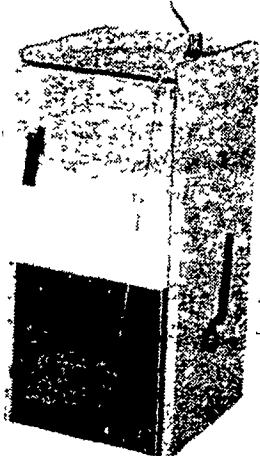
Region	Total Cropland	Potential Cropland		Total	Total cropland plus potential
		High Potential	Medium Potential		
Northeast	16.9	1.1	4.2	5.3	22.2
Lake States	44.2	2.3	6.3	8.6	52.8
Corn Belt	89.9	4.8	9.7	14.5	104.4
No Plains	94.6	5.1	12.9	18.0	112.6
Appalachia	20.7	4.7	9.8	14.5	35.2
Southeast	17.5	4.9	10.9	15.8	33.3
Delta	21.2	3.1	7.0	10.1	31.3
So Plains	42.2	5.2	14.8	20.0	62.2
Mountain	42.2	3.2	11.1	14.3	56.5
Pacific	23.2	1.6	3.9	5.5	28.7
Total	412.6	36.0	90.6	126.7	539.2

* Basic Statistics 1977 National Resources Inventory, Soil Conservation Services Feb 1980

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