

# Agricultural progress

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Professional workers engaged in publicly financed agricultural research total about 18,500 man-years.

Private network. Data are not available on private agricultural research but it is believed to be roughly equivalent to that conducted by public agencies. Research staffs are maintained by practically all large manufacturers of feed, seed, fertilizer, pesticides, and farm machinery, and by firms engaged in transportation, processing, packaging, and merchandising of agricultural products.

Most of the technical and scientific people involved with this research and extension network were trained in the American system of publicly supported colleges and universities. None of these, of course, are exclusively agricultural schools. Only about 7 percent of the nearly 1 million students in these universities are enrolled in agricultural majors.

Birth of USDA. The first major step in the development of the agricultural research and education network was the establishment of the United States Department of Agriculture in 1862.

At first the name was more impressive than the fact. The new Department consisted of a Commissioner, a superintendent of gardens, a chemist, entomologist, statistician, and several clerks. Its offices were in the basement of the Patent Office Building. The first experimental garden was several acres on what is now the Mall in downtown Washington, D.C.

The year that the Congress established USDA, it also

granted each State a patrimony from the public lands. Proceeds from the sale of this land were to be used to establish agricultural and mechanical (A&M) colleges.

Humble beginning. The land grant colleges started small. In most cases, a farm was purchased and a single brick building was erected to provide classroom, laboratory, office, and dormitory space.

Farmers and State politicians didn't see the value of the A & M colleges right away, though State legislatures provided funds for buildings and sometimes for maintenance. For the first 30 years, the colleges had to rely primarily on the income from Federal endowments.

Then in 1887, the Hatch Act set an annual stipend of \$15,000 to support experiment stations at the colleges. The Second Morrill Act of 1890 provided further increases to an annual additional total of \$25,000 per school. Federal support for the experiment stations increased further during the first part of the 20th century, reaching \$90,000 per State by 1929. State support rose even more rapidly.

From famine to feast. The fortunes of the colleges swelled rapidly with the rise in farm prices during the first 2 decades of the 20th century. Funds provided by State legislatures increased and enrollment soared. For the first time, there were enough students to make up classes in agricultural subjects. By 1910, the colleges were overcrowded, and some classes were held in stables.

The long gestation period gave the colleges time to learn some basic lessons. They found that publicly

supported research must solve the problems of its constituents and that the solutions must be communicated to the public in usable form. They learned what the problems were. They also learned the value of systematizing all available knowledge on a subject before they broke new ground.

The experiment stations and USDA also had to define and refine scientific method, acquire equipment, and develop terminology so that research could be verified and communicated to other scientists.

Laying the groundwork. The period from 1900 to 1930 saw two major developments that laid the groundwork for agricultural research and education as we know it today.

Training of research scientists and technologists in fields relating to agriculture, including research in the social sciences which began before World War I.

Training of communicators who could interpret and pass the knowhow from the laboratory to the working farmer.

Public financing of communication was inaugurated by the Smith-Lever Act of 1914, which gave financial support for a nationwide system of adult education in agriculture and home economics. The Smith-Hughes Act of 1917 provided Federal money for vocational education.

Production revolution. Many of the more elementary scientific production problems of agriculture were solved during the first third of this century. More important for the long run, the research that produced the revolution in produc-

tivity after World War II was launched. It was to supply basic knowledge in genetics, human, animal and plant nutrition, and plant and animal diseases and pests.

The Extension Service campaigned to eliminate the diseases and pests that caused great losses to farmers. A campaign to eradicate barberries, an intermediate host of wheat rust, was conducted during World War I - followed by successful efforts against bovine tuberculosis, Bangs disease, avian pullorum, hog cholera, and several others.

"Cow colleges." Despite their contributions, the land grant colleges, and especially the agricultural divisions, were slow to gain recognition as institutions of higher learning. Agriculture students sometimes were ridiculed as "hayseeds" who attended "cow colleges." To some extent this reflected lower admission standards and the high proportion of students who were not after a 4-year-degree course. It also reflected the fact that agrarian mythology to the contrary - agriculture as an occupation ranked low on the totem pole until World War II.

The hard economic times of the 1930's bore heavily on the land grant colleges, experiment stations, and Extension Services. Whole faculties went unpaid or were issued State script of dubious value. Critics demanded a halt to research because agriculture was over-producing; there already was a store of new agricultural knowledge sufficient for the next half-century, they said. Extension Services were branded servants of organized, affluent farmers and not entitled to public funds.

Rising to the occasion. The crisis also was a time of opportunity. The land grant colleges played a leading part in developing and implementing the agricultural programs adopted during the Depression. Many of the programs were devised by economists and sociologists on the faculties of land grant colleges and the experiment stations.

Extension was the only nationwide organization capable of carrying out the New Deal programs in short fashion. At the same time,

Lancaster Farming, Saturday, July 12, 1975-65

funds received for administration of price support and production control programs saved the Extension Services of many States.

Payments to farmers under the new programs let them pay their taxes. In turn, the States were able to resume funding of services, including the land grant colleges.

New money. Agriculture received a new infusion of Federal funds through the Bankhead-Jones Act of 1935.

It initially provided a \$1-million increase in research funds, to be raised by annual \$1-million increments to \$5 million. Forty percent of these funds went to Federal research and 60 percent to State.

Instead of being apportioned equally among the States, as in the past, the new funds were apportioned on the basis of the total U.S. rural population. A second feature required the States

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Farm Sold for Development  
Complete Dispersal of Machinery!

## PUBLIC AUCTION TUESDAY EVENING, JULY 22, 1975

AT 6:00 P.M. SHARP!

### FARM MACHINERY — HOUSEHOLD FURNISHINGS

Location: Two (2) miles west of West Chester, turn west on West Union Street (Route #842) off Route #100 in West Chester, drive 1 1/2 miles to Birmingham Road, left on Birmingham Road for 1/2 mile to farm on right, Chester County, PA.

#### THREE (3) TRACTORS

Int. '706' dsl. row-crop tractor, 1,400 hrs., fully equipped; Int. '504' dsl. row-crop tractor w-'2001' loader; Int. '200' tractor w-fast hitch; Int. '205' self-propelled combine, 10' header used for 200 acres; 3 rubber-tired farm wagons; 200 gal. fiber glass tank 6-row boom trailer sprayer; Int. '234' 2-row mtd. corn picker, like new; fast hitch back blade; Motts 7 1/2' fast hitch mower; Int. '100' 7' fast hitch mower; Int. 2-row fast hitch corn planter; Int. '411' 4-b. fast hitch plow; Int. 2-row cult. for '200' tractor; Danuser 12" auger post hole digger; Int. No. 37 11' transport disc; Int. transport 4-section harrow; J.D. 11' transport cultimulcher; New Idea No. 7 1-row corn picker; Smoker 24' elevator; 2 grain wagons; Int. 1-row PTO corn binder w-carrier on rubber; Papec ensilage cutter; New Holland rotobar rake, 2 yrs. old; New Holland '402' crimper; paint sprayer mtd. on trailer, 1-HP. motor; emery wheel; 250 gal. gas tank & pump; Meyers Ejecto water pump, 1 1/2-HP. motor; 50-4-hole sawed post; cement mixer; 50-ton screw jack; 2 sets bean & pea; work bench; 2 sets tractor chains; reel power mower; sleigh bells; copper kettle; miscellaneous tools; miscellaneous household furnishings; antique vanity; dutch cupboard and numerous articles not listed.

By the order of:  
**Howard N. McCardle**

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## STONE RICH RED & WHITE HOLSTEIN DISPERSAL

At New Holland Sales Barn, located off Rt 23, 12 miles East of Lancaster, Pa

FRIDAY NIGHT, JULY 25, 1975

7:30 P.M.

### 110 HEAD OF RED & WHITE HOLSTEINS with records up to 20,000 lbs. milk

Selling are 60 Registered in HFAA Brattleboro, Vt  
50 Registered in Red & White Dairy Cattle Association  
7 Sired by Romandale Royal R  
4 by Romandale Dividend Performer  
4 by Agro Acres Marquis Ned  
10 by Romandale Jasper R  
4 by Ivanhoe Ray  
4 by Larry Moore Royal Transmitter  
and other popular Red & White Sires

DHIA Records of some mature animals selling include

- An Agro Acres Supreme Lad dtr., 4 yr record, 350 dys. 19,727M, 794 F Selling with 3 dtrs. 2 are full sisters by Royal Red, the other by Royal Transmitter
- A Dividend Performer dtr., 4 yr record, 18,621M, 754F. Her son by Royal sells
- Another Performer with 4 yr. record, 271 dys., 15,381M, 480F
- An Acme Mariner dtr., 321 dys., 17,569M, 550F Her son by Royal also sells
- Agro Acres Marquis Ned due July 8th, 347 dys., 21,333M, 656F, a real top cow
- Citation Renown Lad 2 yr. record, 352 dys., 16,886M, 580F, her dtr sells

20 BIG BRED HEIFERS Plenty of size, quality and color, due Aug and Sept  
30 OPEN HEIFERS FROM 6 MOS TO BREEDING AGE

This is an outstanding group of cattle with lots of type, size and production Some - real show prospects. Should be seen to be appreciated

Owners, CLARENCE STONER AND FAMILY, Jonestown R1, 717-865-2745 Farm located off Rt 23 between Fredericksburg and Lickdale on Stoner and Lickdale Roads All cattle will be pregnancy checked. Interstate Health Charts available

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For Catalogs or more information contact owners or sales manager Be at New Holland on Friday, July 25 to see this outstanding group of Red & White Holsteins Sell

## VIRGINIA'S SUMMER FEEDER CATTLE SALES

4,500 Head for Sale State Graded

PLACE	DATE	TIME	NO HEAD	MARKET	TELEPHONE
Harrisonburg	July 22	1 00 p m EST	1 000	Rockingham Livestock	703 434 6765
Madison Mills	July 24	1 00 p m EST	5 000	Madison Livestock	703 672 2811
Marshall	July 24	7 00 p m EST	1 500	Marshall Livestock	703 364 4861
Winchester	July 25	7 30 p m EST	1 500	Farmers Livestock Exchange	703 667-1023

Angus Black Baldies Hereford Charolais Cross  
Weighing Mostly 600 to 1 000 pounds  
Heifers Eligible for Interstate Shipment  
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For Information Please Contact:

### The Livestock Market

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