

Experts Whose Work Increases Sum of Human Happiness



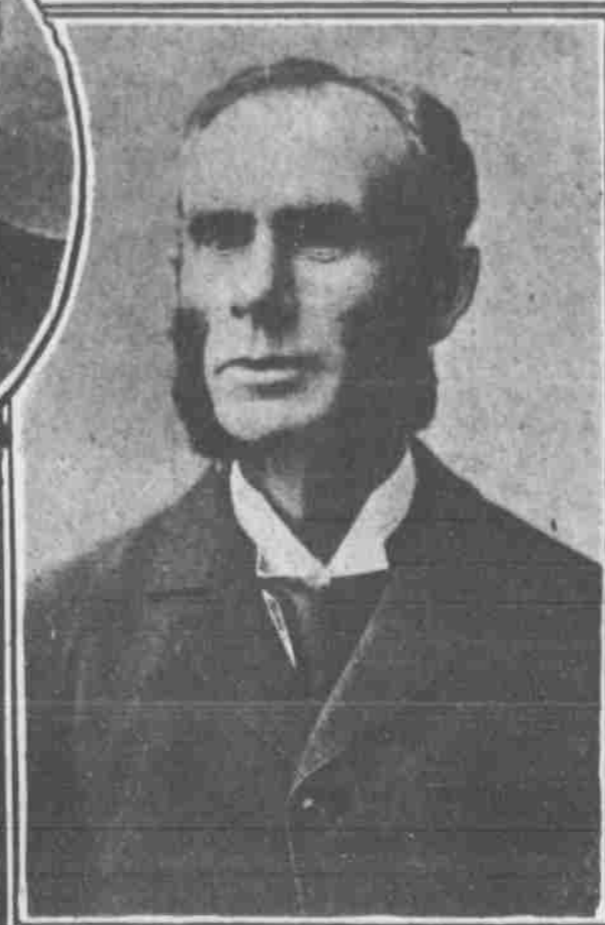
Dr. C. Buffman, M.D.



P. G. Holden



Prof. C. W. Melick



Prof. Thomas Shaw



James W. Jones



Prof. A. L. Haecker



FARMS are made of soil. Crops grow from the soil. The relation between these two simply stated facts makes the science of agriculture. Time was when the farmers and the scientists were far apart; that was before the days of agriculture.

When it was just the process of putting seeds in the ground and waiting to see what came up, the process could be called farming. Science has entered into the industry of producing the things that people eat and it has, therefore, become agriculture.

Not many years ago the farmer sneered at the agriculturist. The farmer was growing things. The agriculturist was the man in the laboratory—full of theories, experimental ideas. Today the agriculturist and the farmer are one. The man of science has become the special adviser of the farmer.

Perusal of the ancient stories of the geological historian tell us of the days when primitive man first learned to scratch the face of the earth, put down certain kernels and cover them with earth. That was the beginning of farming. Just as slow as the development of the race has been the process of learning that certain seeds grow best in certain soils and the reasons why.

In no other industry of the world does tradition die harder than on the farm. As his fathers did before him the primitive farmer of the unprogressive oriental countries and undeveloped Mexico plants and waits. A measure of the same tendency has long retarded the progress of American agriculture, and in agriculture America leads the world.

The science of seeds and soils for years was viewed as a science by the farmer.

Prejudice Against Book Farming.

"No book farming" was the cry that answered the first appeal of the pioneers among the agricultural scientists. The man with a degree earned by labor with alembic and test tube had no standing. The farmer assumed that the way to learn to grow things was to grow them, and he had been growing things the old way long enough to have confidence in no other. Today the man of science has the respect and attention of the farmer; they are working together. In fact, the farmer has become as much a scientist as the sugar chemist, the electrical engineer, the hydraulic expert. The farmer's science is just natural law applied to the fields and growing things. Applied science in all its branches may be defined in the same way.

Two forces have been at work to bring about the co-operation farmer and scientist. First came necessity—which, by the way, seems to be the prime mover in most of the world's new enterprises; then came the assertive forces of the scientific men exploring the field of agriculture.

Necessity was presented by the very primitive desire to eat. The world has to eat. Better farming had to come if the world was to keep on eating. The available productive areas in the reach of centers of civilization, and therefore centers of greatest consumption, have with the growth of the nations become less and less adequate to the demands made upon them under the old methods of farming.

The "book farmer" asserted himself by moving from the botanic laboratory to the agricultural experiment station and to the agricultural college. The experiment station was the great force in convincing the farmer that science was a factor in the most successful agriculture.

Thus it has become possible to increase the yield of feed products per acre. The "book farmer" has given the man on the farm better seeds, new crops and new methods of cropping. By the scientist the methods of intensive farming, which means increased production on a given area, have been evolved and brought to perfection.

Yet it was not many years ago that the man who preached rotation of crops was looked upon as a crank. But the cry for food has not been silenced yet. Intensive production on the areas now under cultivation can meet the present needs of the population, but the tomorrow of possible want is always near at hand.

Trusts, tariffs, copper magnates, market manipulators, railroads and countless other factors in the



N. E. Hansen

commercial forces of the nation have been blamed for the high cost of living, each by a different diagnostician. The one fact remains that none dispute—if more food is produced there will be more to eat. Given sufficient production, at least a part of the experts admit, the question of price will tend to care for itself. Then, to increase production, new areas of land must be brought under cultivation. Again, the man of science is called in to help the farmer serve the consumer. Science, both of agriculture and of engineering, has given water to the arid sections through irrigation and made possible crops in others by the so-called "dry farming."

Estimates made by the now accepted men of science place the total acreage yet to be utilized in the country lying to the north of the Oklahoma line and west of the Missouri river to the Pacific coast and the Canadian boundary at not less than 100,000,000 acres. This is the territory which was represented at the Omaha Land show just closed. The settlement of this almost continental area and its utilization for the purposes of food production represent the greater aim of the Land show held by The Omaha Bee. The scientific men who are making technically possible the utilization of this country gathered at the Land show to tell the people of the west their message. The products were at the show as concrete evidence of possibility. How to achieve the utmost that these opportunities offer was the story of the scientific men. The soil analyst, the dry farmer, the irrigation expert, the entomologist, silo experts, grain culturists and professional lecturers on agricultural science in general figured on the daily programs of the show.

Holden a Farmers' Evangelist.

Prof. P. G. Holden of Ames, Ia., head of the agricultural extension work of the State Agricultural college, is the evangelist of the farm. Prof. Holden began his work as a corn specialist, but as his field of endeavors unfolded before him he became more and more broadened in purpose. It is his mission now to tell the people of Iowa to be better citizens through being better farmers. The efficacy of this work is shown in the Iowa statistics. While it is true that population of the state has decreased in the last decade, as shown by the United States census, the production from the farms has increased. Prof. Holden is concerned, he says, more largely with the production of better men than he is with crops.

"If we see to it that the farmer is properly educated and intelligently instructed in his work the farm will work out its own problems under his administration," said Prof. Holden.

"If the young man can but be interested in his work he will arrive at his own methods and the details of the problems put before him from day to day. The making of better people seems to me the best way to solve the general problems of the country, agricultural and others."

Prof. Holden's department is allotted an annual appropriation of \$32,000 by the state. Under his direction are twenty lecturers and instructors whose mission it is to travel over the state giving lessons and demonstrations in the public schools, at the experiment stations and before farmers' institutes. The gospel of farming rather than the concrete work of the field is the greatest concern of Prof. Holden. He is known, however, as a corn specialist. He has in connection with his work toward the improvement of

the corn crop of his state compiled a series of corn commandments, eight in all. They are:

Thou shalt test each ear of thy seed corn.
Thou shalt grade thy seed corn and test thy planter.
Thou shalt improve thy corn by planting the best seed on one side of thy field.
Thou shalt harvest and hang all of thy seed corn in the last days of September.
Thou shalt not import seed corn from afar.
Thou shalt not follow oats or other small grains with corn.
Thou shalt not farm without rotation of crops.
All of these commandments shalt thou observe and obey that you may be prosperous all the days of thy life.

Prof. Holden's work tends toward the better utilization of the resources already in hand in the well settled states.

Work in a comparatively new country is being done by Prof. Thomas Shaw of St. Paul, Minn., a Land show speaker. Prof. Shaw in reducing the wild country of the northwest, hitherto never successfully cropped, produces the same feeds that are harvested in the lower Missouri river valley. One of the greater works of Prof. Shaw is the extension of the territory in which winter wheat may be grown. The productivity of the northern wheat fields will be increased by nearly 50 per cent when the mission of Prof. Shaw is accomplished.

Something of the methods of the agricultural scientist may be observed in the work of Prof. Shaw in winter wheat. Simple application of a very simple principle is all that it is necessary to accomplish the successful growing of the great staple breadstuffs in the north.

"Protection long enough to allow the wheat to get established in the soil is all that is necessary," declared Prof. Shaw in the course of a conversation at the Land show. "One of the methods of gaining this protection is to plant corn on the proposed wheat field. When the corn has reached a sufficient height the fodder may be cut away, leaving a series of rows, dressing the field preferably east and west, cutting the line of the prevailing wind. Let the wheat be planted at the proper seeding time in the fall. When the winter's snows come the standing cornstalks will hold enough of the drifts to cover the wheat securely. Or, the same thing may be accomplished by sowing wheat in barley stubble. It is but a question of holding the snows during the cold weather. The success of this method has been amply demonstrated by Prof. Shaw on experimental tracts in Montana. Thousands of

acres of winter wheat are grown by his methods near Fargo and Moorhead, in North Dakota.

"Eventually winter wheat can be grown as far up as the north branch of the Saskatchewan river, in Canada," said Prof. Shaw.

The success of the dry farmer working under scientific methods is shown by an experiment conducted by Prof. Shaw at Cut Bank, Mont., where a crop of twenty bushels of wheat to the acre was produced in a season when the total rainfall for the growing period was but three inches. The year in which this wheat was produced, September, 1909, to September, 1910, but six inches of rain fell. In the northwest states there are millions of acres yet to be planted where such obstacles do not have to be overcome. The experiment denotes the success of the method even under extreme test. This is a triumph of the "book farmer."

"There are 10,000,000 acres in Oregon alone which ought to be set to work producing food which are now growing nothing more important than ragged sagebrush," said Prof. Shaw. "But where sagebrush can grow, crops can be produced. The time will come when these 10,000,000 acres will have to be farmed."

Application of scientific principles is being carried on in Idaho orchard districts by Prof. J. Wilkes Jones, known to Omaha as the manager of the first national corn exposition. He is showing how fruit may be grown at big profits on soil which without the aid of man will literally "not grow enough vegetation to hide a jack rabbit." Prof. Jones, whose headquarters are now in Boise, was formerly connected with the agricultural extension work of Iowa's State Agricultural college, where he was associated with Prof. P. G. Holden. For several years Prof. Jones had charge of extensive orchards near Council Bluffs.

Kindly Thought

I need no house, I need no bed,
Except the blue sky overhead.
I need no book and need no wine,
The wind and all the world are mine.

I need no steeple and no spire,
I warm myself by mine own fire;
I need no hostel and no dome,
I bide in peace where'er I roam.

I need no lamp to guide my feet,
Where'er I go the way is sweet
With light of laughter on sweet faces
I lean to with my fairy graces.

I need no throne, for there on high
I keep my state in God's blue sky,
And round me like a tent His love
Keeps me as warm as any dove.

My house, indeed, is all the world,
My flag the banner never furled;
For where around the world I go
My house is in the heart of woe.

My house is in their hearts that weep,
For when to them in joy I creep
There is a sunlight comes to bring
The warm, sweet glory of the spring.

My house is where I go to heal
The aching and the pain men feel;
My hostel is the field of strife,
My tent is in the dream of life.

There are no heralds run before
To hail me coming to my door;
There are no couriers when I leave,
Though I'm the guest that all receive.

With smiling and with welcome warm,
Or if I came in sun or storm,
Or if I come in winter chill,
Or when the sweet flowers paint the hill.

But ever where I roam, the poor
Make me most welcome at their door,
For unto them it is I go
With wealth that only they can know.

—Baltimore Sun.

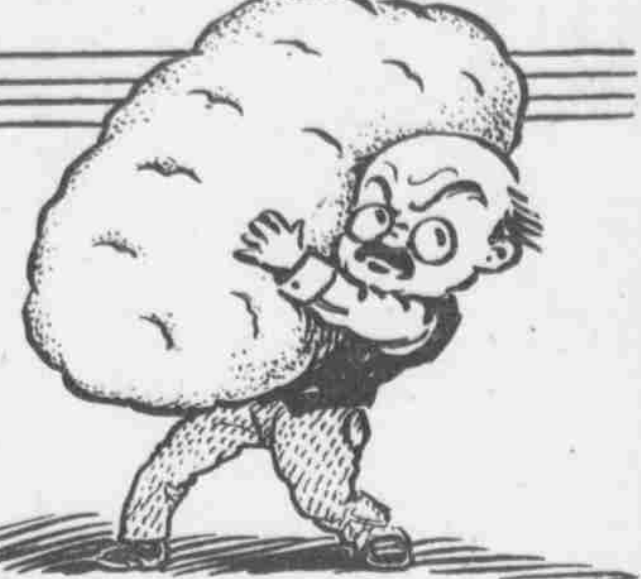


Geo. E. Condra

where, under the environment offered, wealth must be wrested from a willing soil in an unwilling climate.

All the grain that grew in the west, the distant cousins of the wheat family, have been called to contribute a trait in the breeding of emmer. Prof. Buffum has taken from one its hardiness, another its vigorous growth and another its seed-bearing qualities. Emmer is a resultant of these many forces and qualities. It is not a mosaic, it is a new grain. Emmer is more highly productive and more easily produced under a given set of conditions than any of the grains. Further, it is said that emmer offers more nutrition for feeding purposes than any of its progenitors. The "book farmer" has given new volution to nature. Through the "book farmer" emmer has been evolved a process of evolution which nature, unaided, would never have completed.

While some of the scientists are interested in the study of the seeds which are to utilize the energies of the soil, others are concerned with the soil itself. The study of soils is thus the basis of all scientific progress in agriculture. If a plant demands a certain component for its makeup it is worse than futile to try to produce that plant on a soil and under conditions where this component cannot be obtained. In Nebraska one man has been analyzing the soils of every nook and cranny of the state for nineteen years. He can take a handful of soil delivered to him in his laboratories at Lincoln and tell you within a few miles of where it came from. That man is Prof. George E. Condra, who came to Omaha last week to preside at the sessions of the Western Development League. Prof. Condra is known for his work in the department of economic geology of the State university of Nebraska. That may sound rather technical, but out there in the Nebraska cornfields the story of his work is told, though few there are who can read it. His analysis of the soil have long been the groundwork for authoritative effort at the state experiment stations and at the agricultural college. It is a long way from the dim light of the laboratory where a patient man bends over his test tubes to the broad expanses of waving grain out across the state, but the connection is direct and positive.



Hansen an Alfalfa Specialist.

A man so modest that even the ubiquitous reporter was put to his utmost to corral him—Prof. Neils E. Hansen of South Dakota, is performing a world service in the betterment of alfalfa. Prof. Hansen, like so many of the nation's famous in agriculture, took his rise in Iowa. From the Iowa Agricultural school he went into the north among the Scandinavian settlers. Prof. Hansen set for himself the task of evolving fruits and field crops which could be grown in the chillier northwestern states. He has hundreds of berries, small fruits and orchard trees which are giving rare satisfaction in the coldest portions of the United States.

Some years past Prof. Hansen went into the wastes of northern Siberia looking for a hardy alfalfa. The value of alfalfa had long been recognized, but it was then a plant successful only in the milder sections of the middle-west and the coast states. In Siberia Prof. Hansen discovered alfalfa, a yellow-flowered plant far up there in the wilds, which will grow in the most northerly points of the country. By crossing this plant with those indigenous to the United States Prof. Hansen expects to be able to evolve an alfalfa adaptable to every condition which plant life must meet in the agricultural territory of the nation.

The explorations of Prof. Hansen in Siberia were marked by many an unusual happening. His journeys were not without hardship. There were drives of thousands of miles over unknown wastes, dealings with half-savage men and hunger, but Mr. Hansen kept on until he found the yellow-flowered alfalfa.

Mr. Hansen is another "book farmer."

A lesson in conservation at home was given at the Land show by Prof. A. L. Haecker, formerly head of the dairy department of the State Agricultural college at Lincoln. Prof. Haecker is the enthusiastic sponsor for the silo produced by a process by which 40 per cent of the corn which is now allowed to go to waste with the withering fodder in the fields can be saved and turned into good, hard money. His work began as "book farming," too. Today hundreds of farmers are putting silos on their farms.