

following interesting account of the life work of Edgar J. Hollister is sketched by Mrs. Grannis, who has had the opportunity of personally ob-serving some of the results of his wonderful activity. Except for Dean Hollister's retiring modesty regarding his own performances, Mrs. Grannis says that it would be possible to present many more stimulating incidents of difficulties overcome. All in all, his life work is doing much not only for American agriculture, per se; but for the advancement of the idea that brainwork-farming pays, and that there is as promising a field in this line of endeavor as in any of the mercantile or industrial occupations.

Through Toil to Truimph.

By Anna C. Grandis. It is a far cry from a Canadian farmer boy in the sixties to the Dean of Agriculture to-day in a rising insti-tution in the West, yet, by the applica-tion of science to practical farming. such a change has been wrought by Edgar J. Hollister, a soil expert of wide reputation.

No agricultural college opened its friendly doors to this young pioneer, nor was the Canadian government so deeply interested at that time as now, in its farming population. Books on the subject were few and fell woeffully short of the mark, yet he knew neither

discouragement nor dismay.

A call from western Ontario, his birth place, came in 1872 and in response, some time was spent in setting out peach orchards, the work losing its irksomeness because of the study which accompanied it. Moreover, at this point a company was engaged in reclaiming some twenty-five thousand acres of land by the drainage of an inland lake. The young man as-sisted in some of the surveys and was in touch with the chief engineer of the work. His enthusiasm was aroused by the anticipation of the results which would come from the addition of such a large acreage, which hitherto worthless, was now, by reducing it to cultivation, to be made productive.

After some further years of study and preparation Mr. Hollister became interested in the organization of a com-pany for the development of a large tract of swamp. The land was cleared of brush and reclaimed to cultivation, buildings erected, machinery installed and a system of farming, very nearly perfect, was established. Fields of six acres were made to produce an income of 83, 000.00 each, while others of four acres produced \$1,800.00. Of the latter \$1, 200.00 was net; while thirty-five acres was made to yield \$14,000.00 gross at an expense of \$8,000.00. Of course these were special crops such as cel-ery, onlons and other vegetables

SLOW PROCESS OF NATURE. In some instances five years is the period allowed for the reclamation of land by the slow process of nature ifter the drainage has been obtained. Even ther these lands may fall to produce paying crops, because of their deficiency in essential elements such as lime, potash, phosphoric acid and magnesia. These are some of the forces which go to make stability in plants. It is true that such lands con tain a large percentage of nitrogen. accumulated from the decomposition of vegetable matter annually produced in low places. However, this pitrogen would produce growth were i avallable, is in an unknown quantity and available only when sufficient moisture is present, yet does not produce the same results upon crops as nitrogen derived from other sources, such as bone, dried blood or barn-

yard manure.

To make these lands productive inmediately after drainage, it is necessary to correct their acid condition by the use of lime and by disintegration of the soil particles, thereby increasing their powers to retain water and absorb oxygen. These forces together, will act on potash and the three abso-

Hollister proceeded upon the theory that, climatic conditions being equal, certain crops are adapted to certain soils, and that planting those which will bring the greatest revenue will courage development in all lines of

trade. For example, Kalam 200. Michigan, was once surrounded by bogs and flats worth scarcely \$10.00 on acre. After the incoming of the Hollanders, who began raising celery on these supposedly worthless in , \$600,000.00 was brought annually to the town by the sale of this vegetable. In ten years' time the land increased in value to \$900.00 an acre.

In 1800, a trip was made to Colorado where the people were farming under irrigation, and here the growers



DEAN E. J. HOLLISTER.

were taught the economical use of water and the method of creating a favorable environment for plants. A visit was made to Maryland, where experiments with soll and plant life added still further to the experiment-er's fund of knowledge, but in 1901, the most difficult and seemingly im possible work was to come, i.e., the reclaiming of tidal lands on the north shore of Long Island Sound. The Department of Agriculture already had had a man in the field, who had reported the feasibility of reclamation but by slow processes, and that investigation revealed too many failures,

In spite of this, Mr. Hollister had sufficient knowledge, gained exper-mentally, to suggest success, added to which was the further information gained during a four years' residence in Washington, D. C., for the exprespurpose of consultation and co-opera tion with the experts of the Depart-ment of Agriculture. An experiment was first made on a small tract on the south side of Long Island, where the salt bog had simply been taken up and thrown inside of a dike, con structed of lumber sufficiently strong to withstand the fide. This bog was made smooth and even, and chemicall treated in the month of August. By the 't of October the surface was covered with a beautiful growth of tame grass six inches high. might certainly be termed, "A Quick Process Route." Work on a sixtyacre tract on the north side was begun in June and completed in December of the same year. On this land, covered the previous autumn with salt water. nine hundred bushels of turnips were produced on two seres during the first season. Rye, oats, celery and vegetables throve on the same tract. The following year twenty acres were seeded to meadow land in April By August It was covered by a beaut ful tirf, strong enough to hold up cattle pastured thereon. The remain ing portion of the sixty acres duced luxuriant crops of vegetables and corn. A year later the meadow will act on potash and the three abso-lute essentials to plant growth are ui-and was considered a great demon-

a crop of corn sown broadcast. The hay for pigs, it is considered better to the sand lot planted in rye. It will be the soll.

The work of this interesting man attracted the attention of many people pursuing scientific agriculture, among whom was H. J. Heinz, the pickle manufacturer-57 kinds-who is interested not only in the culture of the egetable kingdom but in the 'el' ofnal growth of boys, and through his activity Mr. Hollister was elected will bring the greatest revenue will netivity. Mr. Hollister was elected enhance the value of the land, inspire Dean of Agriculture at the Agriculthe people with enthusiasm and entural Institute of Winona Lake, Indiana. Here he was seen last summer, handling his crops of embryo farmers who seemed imbued with his enthusiasm and whose first harvest received encomiums from five thousand visiting farmers, who unani-mously adopted resolutions endorsing the work.

EDUCATING FOR SMALL FARMS. A plan is now taking tangible form, which will lead to the establishment of small farms comprising five to twenty acres each. On these farms young men will be taught combined scientific and practical agriculture. They will also demonstrate the possibility of getting an income and genuine happiness from their investments which may well be envied by the salaried man or the man of moderate capital in the city. It is believed too, that this work will have a wholesome effect upon the farmers throughout the country. An increase of even \$100.00 in the revenue of each farmer establish the prosperity of the Ameri-can Nation, the bulwarks of which one-horse plow or lister, and drop the are its farming population. Mr. Hollister is also directing a

work of reclamation of a large tract seed to a depth of about 4 inches, using of salt meadow on the Connecticut a hoe or a one-horse plow for the purcoast which, when reclaimed, will be used for the purpose of intensive farming, thereby firmly establishing the fact that these lands may be used to furnish employment and bring wealth and happiness to the people. Thus each day reveals some new

progress, and farming, that once seemed a hopeless, hapless drudgery, is being shown a golden highway to ficiently warm. an ever increasing success.

the Department of Agriculture has re- toothed cultivators. Good cultivation cently published a study by I. D. should be maintained throughout the Graham of the use of alfalfa for the growing season, with occasional hand growing and fattening of animals in hoeing, if necessary, to keep the the Great Plains region. The results ground free from weeds. Much de-attained by experiments, while of in-estimable value to live stock growers last the soil may be worked up around

corn was plowed down in the fall and cut it early, so that a larger proportion the sand lot planted in rea. It will be of leaves may be saved and consequantity a larger proportion of protein seen that in this process nature was conserved. While late cutting, after being assisted by moisture and sun- the leaves have fallen somewhat and light to change sand into rye and corn the sten pardened is better for horses, for pigs, especially growing stalks. Then the sand, by the natural process of decomposition of these grains, brought about a complete leaves. Experience teaches also that the third or fourth cron is better for change in the physical condition of the third or fourth crop is better for pigs because it is softer and more palatable. It is always wise to provide some sort of a trough or rack with a floor in it for feeding alfalfa to hogs. Alfalfa in its green state, or when used as hay or ensilage, is a first-class poultry food. Poultry will pasture on it during the summer and thrive. It is st for poultry to use the last cutting of alfalfa, as it is softer in texture has a larger proportion of leaves, less

The Irish Potato.

woody matter, and is more succulent

than any other cutting. While poultry of all classes will eat alfalfa hay, or

at least the leaves from it, and thrive

chop or grind it and mix it with a

grain ration. A good practice is to steep the alfalfa hay in hot water and let it stand for several hours before

is undoubtedly a better practice to

A rich, sandy loam is best suited to the production of Irish potatoes, and the fertilizers employed should contain high percentage of potash. The main crop of Irish potatoes for family use should be grown elsewhere, but a small area of early ones properly belongs in the garden. The preparation of the soil should be the same as for general garden crops.

In a recent bulletin on farm vegetables, the department of Agriculture recommends that for late potatoes, the \$100.00 in the revenue of each farmer rows should be 2½ to 3 feet apart, when multiplied by five million, would and the hills 14 to 18 inches apart in seed, one or two pieces in a place, in the bottom of the furrow. Cover the pose. One to three weeks will required for the potatoes to come up, depending entirely upon the tempera-ture of the soil. The ground may even freeze slightly after the planting has been done, but so long as the frost does not reach the seed potatoes no harm will result, and growth will be gin as soon as the soll becomes suf-

As soon as the plants appear above Value of Alfalfa to Farm Animals. the ground and the rows can be followed, the surface soil should be well The Bureau of Animal Industry of stirred by means of one of the harrow-



STUDENTS CLEANING OUT A DRAIN AT WINONA

other feeding stuffs, of this crop as a honey-producing plant was also considered.

Finely ground, kiln-dried alfalfa hay called alfalfa meal, has given satisfactory results as feeding stuff. The the vines. commercial article is made from selected alfalfa and mixed with sugar-beet molasses in the proportion of 75 to the sun, or to any light while in per cent. alfalfa and 25 per cent. mo-

Horses and mules, it is stated, thrive on alfalfa pasture, and while alfalfa is too rich a food for mature horses un-less used in combination with some cod over in a cool, shady shed until other roughness, it is an excellent feed for young ones, as it seems to contain which they can be placed in a dry inst the elements necessary to develop just the elements necessary to develop bone, muscle, and consequent size. The ideal temperature for section bone, muscle, and consequent size. The ideal temperature for section bone, muscle, and consequent size. The ideal temperature for sections and 40° F., but they will not with the conditions of the conditions seems to stimulate all the physical have been raised on one acre. How processes to such an extent that various disorders of the digestive system ticeable in the urinary and perspira-

tory glands. When alfalfa is fed to horses in considerable quantity the grain ration must be proportionately reduced and an abundance of other roughness furnished. When horses have attained a mature age and it is desirable to change from other hay to alfalfa, this change must be very gradual, and the alfalfa selected for this purpose should be more advanced in growth at the time of cutting than that which is to be fed to cattle or sheep. As a general statement, very ripe alfalfa hay is the best to use for working and driving though he was in one case much handi-capped by inadequate drainage, which it was not found practical to improve.

onsidered by stockmen in other sec- | tect the tubers from the sun after the ons. Vines begin to die. When the tubers Some of the questions considered in are fully ripe the vines will be quite he experiments were the composition dead, but digging should not be deand digestibility of alfalfa, the calculated cost of nutrients supplied by alvalue of alfalfa hay cut at different start seriously interfering with har-periods of growth, alfalfa as a pastur-vesting the crop. On a small scale, age, soiling, and hay crop, alfalfa meal, dig with a spading fork, and on a and the value of alfalfa, fresh and large scale, use either one of the specured, for different kinds of farm anicial digging machines or a turning dig with a spading fork, and on a mais and for poultry. The importance plow, which latter will cover up a good many potatoes. A late crop may be planted during May or early in June in the North, and harvested late

storage, as they soon become green and unfit for table use. Early pota-toes especially should not be stored in a damp place during the heated part the autumn weather sets in, after

A thousand bushels of potatoes many farmers, who chance to read this, have raised 200 bushels on an equal plot? And there are some who can not grow 100 bushels on their

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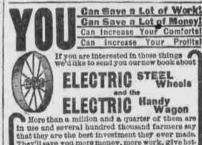


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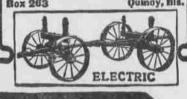
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and make them phosphoric acid

available as plant food.

trogen, phosphoric acid, potash, and stration of the productiveness of these

lands under applied science.
MAKING SEA LAND PRODUCE. Mr, Hollister visited Florida and se-cured a tract of land which for five ment was conducted by this "Wizard it was not found practical to industry substitute of the results were, however, very substitute of the ground in abundant exercise.

if they have not been accustomed to may appear. This is particularly no

In 1895, in Canada, the next field of operation, a phenominal success respectively. Here Mr. plowed under in June and followed by sults. As regards the use of alfalfa a head.

weather should set in, and weeds will in autumn, when the frost has killed

After digging the potatoes, they

Mary was Piseased. Mary had a swarm of bees, And they, to save their lives, Must go wherever Mary went-'Cause Mary had the "hives."

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The national debt of France is \$150