

# Nine-Billion-Dollar Bumper Crop to Enrich Nation

## Greatest Harvest in the Country's History May Help to Solve the Question of Cost of Living



Potato Patch on Looped Off Farm Lands. Yield Averages Twenty Tons to the Acre

By W. H. Ballou

WITH an agricultural output for 1912 of an indicated value of \$9,000,000,000, or \$90 per capita, \$1,000,000,000 greater than last year, the United States presents a bad year for calamity howlers. It would seem that the pressure of so great a productivity ought to score heavily against high prices for food and allow consumers a chance to repair their savings accounts. It is difficult for the human mind to

change will be effected without totting around shin plasters or metal. "Exchange is often far more valuable than mere cash. At Livingston, Mont., once I received for a check or draft of \$150 at the rate of \$160 cash for exchange on Chicago and \$165 for exchange on New York. While such conditions do not always prevail, yet there is nearly always a cash premium somewhere for exchange on some-where else. The next point, productivity in so short a period, is readily explained in

and tributaries and Puget sound are chief factors. In the heart of the productive states are the Mississippi, Missouri and Ohio rivers and tributaries. On the northern border are the great lakes and the St. Lawrence river, connecting with the Erie or Barge canal. To the railroads, then, is left the movement of crops and food supplies to interior municipalities and mill towns, such as Minneapolis. With the Panama canal opened their grain transport will be further curtailed.

While agricultural productivity in America is bound to increase yearly, there is a point ahead where it must stand still and then annually decrease. State after state has lost its big farms, which have necessarily been cut up to provide dwelling places for increasing populations. Great farms are being organized farther and farther away from the east—in Oregon, Washington and the Canadian Northwest territory. New populations, however, persist in pressing the construction of such farms closely until already we are concerning ourselves with the possibilities of agriculture in Alaska.

When America is completely cut up into small farms the question of feeding cities may become something worse than high prices; it may become a question of getting food enough to go around. Such questions may not seem to be matters of worry for today, yet the conditions that exist today were not conceived 20 years ago by the present generation. In other words, those living today, who are to exist 20 years longer, will no doubt be facing the very problems which they think do not concern them now.

A sample American grain farm is that of Fred Engen at Saskatoon, Saskatchewan, in the British Northwest territory, which may be taken because its data are available. It has an area of between seven and eight square miles and an estimated crop of 106,000 bushels, of which flax comprises 70,000 bushels, wheat 30,000 and oats 6,000. The flax crop was not only the



Cabbages of Enormous Size Are the Rule

largest one farm crop on record in 1911, but was notable because it grew on land broken for the first time, and represented one season's effort, more than repeating itself in 1912. The horse is unknown there, except in a small way as a chore animal. Six gas tractor engines do the work of the farm. Two men operate each 30 horsepower tractor, each plowing and harrowing an average of 35 acres a day. The labor involved is expended largely on machines, there being but a fraction of manual labor. Power there, as on all great modern

\$900, leaving a clear profit of \$17,100. It may be assumed that this amount also far more than covered all the expenses he had been to in the purchase of land, machinery and equipment of all kinds, moving and expenses of every description. Certainly no business shows a greater per cent of profit on cost of production, that is, plowing, seeding, harvesting and marketing.

After unsatisfactorily trying two 50 horsepower stationary gasoline engines to pump his rice wells Mr. Harfst abandoned them and attached No. 6 pumps to a gas tractor, with the result that he was able to throw vast quantities of water for longer distances, accomplishing all the purposes of irrigation without ditching, damming or other devices. One tractor lifted the water 60 feet and drove it at a rate of 2,000 gallons a minute, operating a six inch irrigating pump.

The record of 53 farms where gas tractors were used last season shows that 139,388 acres, or about 218 square miles, were cultivated by gas tractors, plowing \$2,155 acres, or 1,441 acres an engine, disking and drilling 57,233 acres, or 2,201 acres a machine, a total of 2,403 acres an engine. When grain is thrashed and hauled to market in sacks by the tractors another modern process of machine work is utilized, a time saver. The sacks are unloaded from the trucks by elevator carriers and loaded on railway cars or stored in warehouses or otherwise disposed of. Machinery now picks things such as hops and cotton, gathers and handles sugar beets, loads



Hauling Oats From Field Reclaimed by Diking. This Land Produced a Hundred Bushels of Oats the Third Year After Reclamation

Engen seeds 800 acres of flax a day. His farm is equipped with the most modern speed makers, which also make for efficiency. Boarding and sleeping cars are moved for the use of the help to the point of operation by the tractors. The only building on the farm is an enormous machinery shed, there being no dwellings, the owner living in town and going to and from his land in an automobile.

Distance from railways has no bearing on big scale farming. C. W. Colgrove of Minneapolis and J. B. Dickson of Mount Vernon, S. D., last year took up adjoining virgin tracts of land 40 miles from Taylor, S. D., the nearest railway point. They broke the new ground with tractors, sowed it with flax seed and raised 30,000 bushels the first season. Each tractor hauled 700 bushels a trip to the railway at a cost of seven cents a bushel, for which they received \$2.20 a bushel. Henry Harfst last year took land in Texas for rice that had never been broken. With a gas tractor he plowed 600 acres and sold \$18,000 worth of rice for his first summer's work. He estimates the cost of production at

them from wagons on trains and unloads the trains, indicating conclusively how modern time and labor saving farm machinery has enormously increased the productivity of the country.

It may seem strange that farms without dwellings are springing up in new countries without towns, at long distances from railways. But there are still stranger features induced by the wonderful growth and distribu-



Growing the Mangelwurzel. Single Specimens Reach Twenty-Two Pounds. 271,375 Beets Grown on This Acre

tion of traction machines to which the principles of the automobile have been applied on a large scale. Neither good roads, nor, in fact, any roads at all are any longer essential—only a right of way.

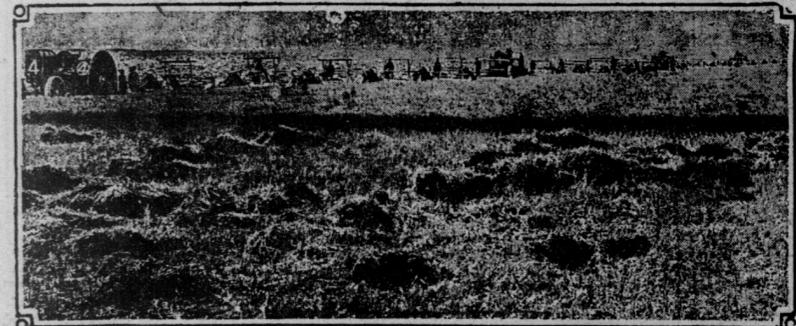
The tractor makes its way over any kind of ground, under any conditions, except water of too much depth. Nor is it solely of use in agriculture. It has become the modern extension of railway systems in all directions, particularly what is known as the "caterpillar" type, which moves on tracks which it picks up and sets down at a seven mile per hour gait. The Southern, Union Pacific, Atchison and other great railway systems discovered first that the tractors could be used to haul freight and passengers from their inland terminals, along their projected lines or lines in process of construction, to the towns they were building tracks to reach. Next they found tractors could be used at any railway station to reach towns at distances from their tracks, in place of side lines, switches or connecting trolleys at vastly less expense than trackage.

These tractors differ from an automobile truck in this way. The automobile truck can haul its own load only or little more, whereas a tractor will haul any number of loaded trucks in tandem freight train style. The gas tractor types are best for big operations in more or less level or rolling ground, while the caterpillar type readily not only is adapted to such ground, but to mountainous regions and desert lands, hauling freight, laborers, construction materials, excavating, denuding forests, doing all lumbering operations, carrying oil pipes, ditching and laying the pipes

through impenetrable wilds and actually reducing the wilds to cultivable lands.

The tractors use all types of fuel, such as gasoline, kerosene, benzine, naphtha and distillate, and operate in the coldest weather by means of an antifreezing mixture, which will not solidify above 54 degrees below zero, nor boil below 234 degrees above zero. Winter, therefore, has no more terrors for the farmers owning tractors, who can go on thrashing or performing other outdoor operations with ease. The snowdrift is no longer allowed to block their highways, but is plowed out or knocked out by the tractors. Already Alaska has found their uses even in the most terrible winters, and they are beginning what is considered to be a universal invasion to reduce the work of that forbidding country to Easy street, take the place of railroads, work mines, open up agriculture and make transport possible in winter and general at all times.

The 1912 crop is estimated by the crop reporting board of the department of agriculture as follows: Corn, 2,000,000,000 bushels; wheat, 630,000,000 bushels; potatoes, 398,000,000 bushels; oats, 1,200,000,000 bushels, and rye, 35,000,000 bushels. In addition we may look for 12,000,000 bales of cotton, 38,000,000 pounds of coffee, 26,000,000 bushels of flaxseed, 540,000,000 pounds of rice, 800,000,000 pounds of tobacco, 50,000,000 pounds of hops, 1,500,000 tons of sugar and 500,000 tons of beet sugar. Some of the idle \$90,500,000 surplus will be distributed by the treasury department among national banks to move the crops—in fact, whatever amount is necessary.



Tractors Working in Series, Each Hauling Six Binders

fathom figures so stunning, to understand how so much productivity was achieved in so short a period, to comprehend by what marvelous methods so much was raised, how it all can be moved to the markets of the world and other like questions.

The financier will dismiss the \$9,000,000,000 by stating that little actual cash comparatively will be involved and that the whole business end of it will be represented in more or less large check transactions, which the banks will clear through clearing houses and by means of which ex-

the substitution of modern machinery for animal and man power, by single machines each doing the work of 32 and 82 horses and working 24 hours a day in all weather and all conditions of soil, the machines having self-steering gear and equipped with powerful illumination.

Notwithstanding the great mileage of railways in America and their vast equipment of rolling stock, they are able to cut but a small showing comparatively in the movement of crops. The waterways cut the large figure. In the northwest the Columbia river

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# Army and Navy Drop Old Forms of Stilted Verbiage

THE United States army is getting down to real business. Not content with stripping off most of the gold lace, it has just decided to strip off most of the red tape, particularly as regards official messages and correspondence. Here is how they used to do it:

Major General Amos Kugg, Commanding Third Brigade, "Army of the Hudson," "Department of the East," "Respected Sir:—With expressions of the deepest respect, and with keen regret, I have the sorrow to report that the enemy, three regiments strong, attacked our extreme left, at thirty-two minutes after three o'clock this afternoon, and owing to our exposed position and lack of adequate fighting force, have driven us back and now occupy our trenches. I am also forced to the conclusion sir, that they have in contemplation a flank movement, which, with our depleted ranks, we are in no position to combat. With profound regret I have to inform you that we are still falling back, and are in despair of receiving adequate support.

"Respectfully submitted, "BERNARD BUGSWELL, "Lieutenant Colonel, "Twelfth Regiment, U. S. A." "Respectfully forwarded, "Jonas B. Kumbo, "Lieutenant Colonel, "Commanding Second Division."

The reply: "Headquarters, Army of the Hudson," "Department of the East," "Bernard Bugswell, "Lieutenant Colonel, "Twelfth Regiment, U. S. A."

"Sir:—I note with sorrow your report of this morning. We are endeavoring to rush the Twenty-third and Sixteenth regiments of infantry and three field batteries to your position. You will take command of these at once and endeavor to regain your trenches and prevent any contemplated flank movement.

"Truly yours, "AMOS KUGG, "Major General, Commanding." This is the new way: "General Kugg, "Dear Sir:—They're too many for us; we're on the run. We gotta have help or they'll make an end run, too. Can't you get busy?" "BUGSWELL."

The reply: "Bugswell:—Get back on the job. You can have all the help you want; only make good!" "KUGG."

The war department, apparently taking the ground that an army might be hopelessly defeated while a commanding officer was wading through the fulsome preliminaries of the old style correspondence, has just promulgated the rule which cuts official dispatches down to a mere set form, which is little more than filling out a blank. All of the "respected sir," "respectfully submitted," "respectfully forwarded," and the like, are dispensed with. Instead, the new letters begin with the name of the officer writing, and his rank and position; the name of the officer addressed, the subject of the letter, then the letter proper, written as briefly as possible, something like this: "Madison Barracks, N. Y., "September 23, 1912.

"From:—Captain John A. Smith, "Twenty-fourth Infantry." "To:—The Adjutant General, U. S. A." "Subject:—Leave of absence. "I have this day taken advantage of the leave granted me by Par. 1, S. O. 1, Hg. D. P., 1911. My address will be care of Army and Navy club, No. 107 West Forty-third street, New York city."

Whether or not the innovation is to be carried further and result in the elimination of some of the good old form upon which army and navy men cut their teeth and with which they went into battle, is a subject for serious reflection by men in the service. It may extend to the navy. Many a man has been disciplined for forgetting to stand when the rear admiral in command passed through the junior wardroom, or because a piece of the gold leaf of his chapeau showed dimly when the president came aboard for inspection.

The speculation in this direction receives many tales of the old days of piracy and the war of 1812, when the United States fought Britannia on the bosom of her own element. The eight pound shells were howling through the rigging of the American frigate, tearing great holes in her gun-wales and bringing her spars and tackle to the decks in hopeless ruin. Although

the battle was only 19 minutes old the enemy's fire was so hot that the frigate was beginning to look like a dismantled wreck, and her port side, which was in the battle, was badly riddled. Taking advantage of a quartering wind the enemy made a brilliant movement, sailed ahead, came about, and suddenly found herself on the starboard side of the Yankee.

The guns on that side had been out of the fray, and of course, were idle. They were loaded and primed, however, and the crews jumped to position and awaited orders. As the enemy opened fire anew and Yankees stood ready to return, and the crews looked back to their officer, standing just behind.

"Ready, men," he called in a steady voice. "F!" "What's this?" demanded the commanding officer rushing across the deck. "Where are your gloves?"

"My gloves?" "You know well that rule A, section H, 3b, provides that no officer in command of a gun crew shall go into action except in full uniform! Put on your gloves! Then report to me after the engagement."

The officer plunged down to his quarters, searched in terrified haste through his wardrobe and finally found his gloves. He rushed back to the gun deck, got the gloves adjusted and gave the command to fire just as the battery went out of business on account of a well directed shot from the enemy.

Five minutes after the blast shattered the Maine in Havana harbor and the water was creeping up above the berth deck Captain Sigbee was making his way through the water from his cabin to the companionway. He met his orderly, who had rushed below in search of him.

"Sir," the orderly is said to have remarked, drawing up stiffly in four feet of water and saluting, "it is my duty to report that the ship has been blown up and is sinking."

"Very well," replied the captain. "Go above and await orders." Both made their way in safety to the deck above and got away in small boats.

Had the new order of things been fully organized then the dialogue might have been like this: "Orderly:—We're sinkin', boss. Better come above." "Captain:—Do you think I'm blind? Get out of my way!"

The orderly who dashes up from the outpost line, dismounts, sees that the reins are passed about his arm at the proper angle, removes his hat and salutes, then hands the urgent message to the commanding officer, will give way to the orderly who dashes up, throws the paper at the officer's feet, and demands: "Any answer?"

It is conceded that a lot of time and breath will be saved, and that enough may be gained to win a battle which otherwise would be lost. In past years the strictures of official form and red tape have been imposed even under such tense conditions as the blockading of Santiago harbor, from which Admiral Cervera's fleet was expected to emerge at any moment. In fact, the men on board all the American warships were lining up for regular Sunday morning inspection on the morning of July 3, 1898. With their shoes shined, uniforms brushed, caps and gloves adjusted properly, they were assembling in ranks on decks when the bow of the Maria Teresa appeared around Smith Cay.

It is due to both men and officers to say that no considerations of red tape or regulations held them for more than one and one-half seconds. The men tore off their jackets and caps and ran to their posts, and the officers didn't set them any better example.

As a matter of fact the reduction of the verbosity in official dispatches is but one more step in the process of simplifying things in both the army and navy. The elaborate uniforms of 10 years ago are gone, and many of the irksome rules are now abolished. It wasn't so many years ago that

naval officers took their wives with them when they went on cruise, and several stories are told as to the origin of the strict rule barring women from naval vessels except as visitors when the vessels are in port. The most general accepted one has to do with the visit of an American cruiser to a South American republic where a revolution was in progress, about 30 years ago. As the vessel lay at anchor in the port a boat drew up alongside and a bedraggled figure sprang on to the

after deck. There was no one there except the wife of one of the officers, sitting on a deck chair. The visitor told a tale of woe, declaring that troops were after him; that he was condemned to be shot if captured, and implored her to hide him. She finally consented and sheltered him on board the vessel unknown to any of the officers or crew. The fugitive proved to be one of the revolutionary leaders, and the affair port a boat drew up alongside and a bedraggled figure sprang on to the

## THE SERENA AND THE VESTAL

THE story is told that in the latter part of the fourth century, when the Roman world had become more or less Christianized, Serena, the wife of the great Vandal chief, Stilicho, visited the almost deserted house of the vestal virgins at Rome, in which the sole survivor of the once sacred sisterhood was an aged vestal.

Serena, finding the treasures of the house practically unguarded, stripped from one of the sacred statues a large jeweled necklace that hung about its neck. The aged vestal could do no more than solemnly curse the intruder. The Emperor Honorius, who was the son in law of Serena, took no steps to punish the offender.

When Alaric the Goth was besieging Rome, years afterward, Serena was condemned to die, because she was believed to have held treasonable correspondence with the Goths, and was strangled.

This is the story of Serena's theft of the sacred necklace. Now for the verification of at least a part of it. The house of the vestal virgins of Rome was within recent years discovered and exposed to view by the picks and spades of the archaeologists. Among the statues found was one, and one only, which bore the marks of having been decorated with a real necklace which had been violently torn away. The fastenings still existed to show its size and the position of its great pendant jewel.

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## HARDWOODS FOR JAMAICA

FOR the first time valuable hardwood timber has been exported from Port Antonio to the United States. An agent there from New York recently purchased a considerable number of mahogany and cedar trees, two shipments of this timber have already been made and other shipments are going to a New York firm. These shipments mark the beginning of a considerable exportation of valuable Jamaican hardwoods to the United States.

Although lumber is not an article of export from Jamaica, there have been some shipments of hardwood timber for years from Kingston, chiefly to European ports. Now that the be-

ginning has been made in exporting such timber from Port Antonio, it is probable that the shipments will increase in time, especially as there is a body of some 35,000 acres of forest land in one parish (Portland), which the government is taking steps to open up by building roads through it. This land is part of a purchase made by the government from a company to which a subsidy in land was voted for building a railway some 20 years ago.

Jamaica has from 400,000 to 500,000 acres of forest, not including scrub lands. Although there is not much heavily timbered land, the island produces a great variety of hardwood trees.

## The Seven Ages of Milk

1. NEGLECT AGE. Meaning anything and everything unsanitary; filthy stables and as filthy cows; dust, flies, unclean cans and pails and unclean milkers perhaps, and careless cooling and storing of the milk.
2. WATER AGE. When 25 to 50 per cent of water was added to the milk to make it hold out.
3. SKIM AGE. When all or part of the cream was skimmed and kept at the farm and the milk sent to town.
4. PRESERVATIVE AGE. When salicylic and boracic acids were used, and then formaldehyde to keep the milk chemically sweet.
5. TUBERCULOSIS AGE. When milk was found to be, through the bovine bacillus, a transmitter of the white plague.
6. PASTEURIZATION AGE. When all "uncertain" milk was made safe through application of heat, 145 degrees Fahrenheit for 30 minutes, correctly, honestly and thoroughly done.
7. GOLDEN AGE. When all milk shall be "certified" in the full and sanitary sense and meaning of the term as to environment and methods, machine clarification to take place immediately after the milking, when the milk is fresh from the cow and before germ multiplication has commenced, either from the foreign matter or from the slimes already present in the milk; then cooling and bottling at the farm, pasteurization after bottling, if requested, to make assurance doubly sure.

CHARLES CRISTADORO.