

The
Quickest! Cheapest! Easiest!
Way to Pull Stumps!!

**Use a Kirstin Puller
On 30 Days Free Trial
Pull Stumps at 5c!**

Labor scarcity no longer prevents ANY man pulling STUMPS! One man alone handles, operates this famous Kirstin one-man CLUTCH Stump Puller! No help needed! No horses! Leverage principle gives man giant's power—enables you to pull stumps big, little, green, rotten, low-cut tap-rooted—or brush! Pulls them quickly! EASILY! CHEAPLY!! A record breaking 30 Days FREE TRIAL to prove astounding superiority! Clear one acre from one anchor—think of it! No longer is labor scarcity a good excuse for stumps—not with the

Kirstin One Man Stump Puller
Single — Double — Triple Power

Because of its wonderful double leverage, the Kirstin gives a boy the power of a giant. A few pounds on the handle pulls tons on the stump! No stump can resist it!

6 Speeds! Patented jiffy "speed-shift" enables you to operate in any one of 6 Speeds and make the change instantaneously. Saves time—saves trouble—permits pulling stumps in from 4 to 10 minutes at a cost of from 5c to 10c.

Take-up saves time and bother in taking up cable-slack—makes quick hitch possible—saves cable. The Kirstin is made of high grade steel, strong, light, easy to handle. Soft steel clutches grip cable without injury. Nothing to wear, get out of order! None like it! A 3-year guarantee—flaw or no flaw! Lasts for years. Most economical puller model Used by U. S. Gov't! Users everywhere.

Four Big Liberal Propositions

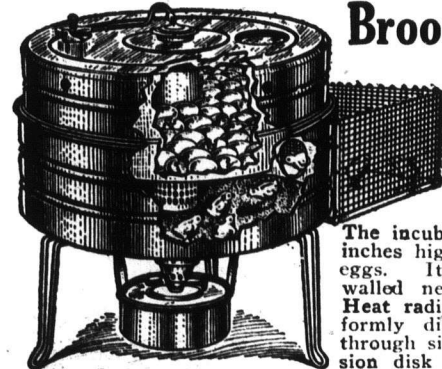
with a No-Money-in-Advance, 30-Day FREE TRIAL OFFER, an Easy 6-Months-to-Buy Plan and a SPECIAL OFFER to one man in a community! Get all the facts!—as explained in FREE book! Write for it quick—

Ask for Special Offer
to AGENTS



A. J. KIRSTIN CANADIAN CO.
1102 Dennis Street - SAULT STE. MARIE, ONT.

Little Brown Hen Incubator and Brooder Combined \$7.25



A WONDERFUL HATCHER
EASILY UNDERSTOOD
A SUCCESS—Not an EXPERIMENT
Wonderful Value at This Price

The incubator is 18 inches in diameter, stands 15 inches high, and holds about 50 average size hen eggs. It is made entirely of metal with double walled nest and top lined with insulating felt. Heat radiates above and around nest and is uniformly distributed, the fumes being carried off through side openings. Regulator is of the expansion disk type with brass disk. Thermometer is guaranteed high grade, and can be easily read through glass window in top. Lamp has heavy one-piece bowl and burner of improved safety design. Complete instructions for operating furnished. The brooder part is 4 inches deep. A cage or yard of galvanized wire screen, with galvanized bottom 10 x 12 inches attaches to side of machine and gives the chicks opportunity for exercise and fresh air. Many thousands of this type of machine have been marketed with satisfactory results.

No. 18 H 20. LITTLE BROWN HEN INCUBATOR AND BROODER. \$7.25
Weight, 20 lbs. Price.....

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Catalog of Farm Supplies

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About the Farm

Modifying the Constituents of Plants

By Prof. Thomas Shaw

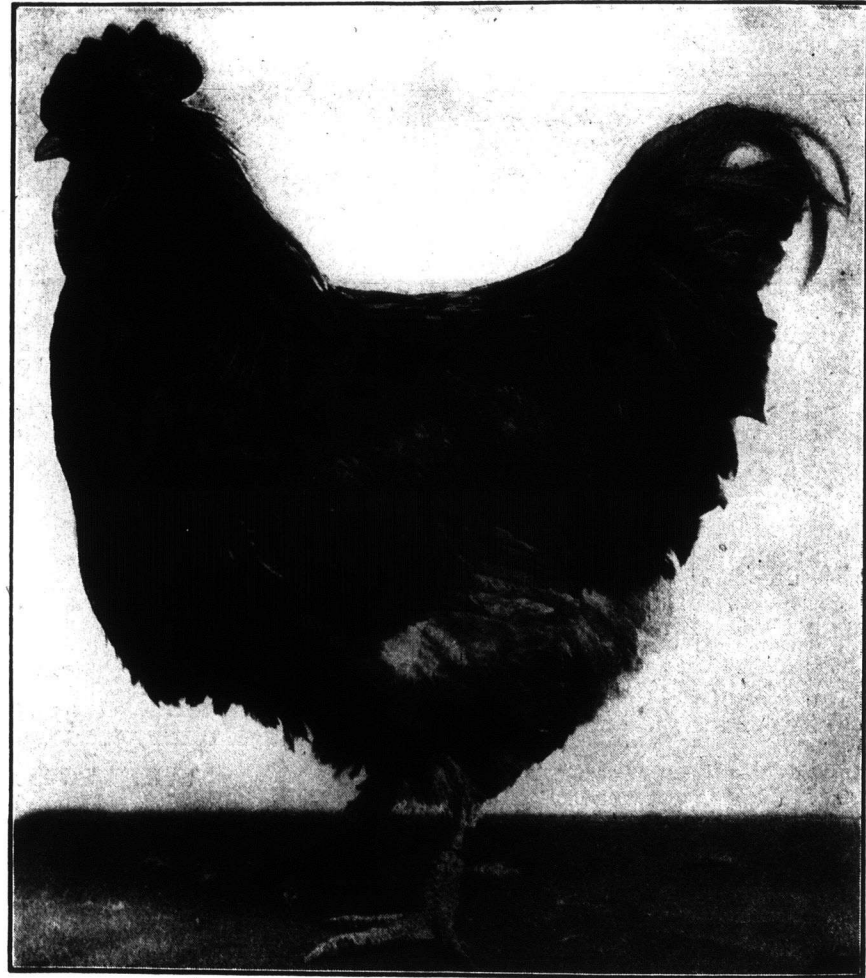
The various experimental stations in Canada and the United States have conducted in the aggregate an amazing amount of experimentation. The larger portion of it has been useful. But with regard to some of it a question mark may fitly be placed at the end of the report concerning it, not for the purpose of questioning its veracity, but rather for the purpose of questioning its utility. Before an experiment is undertaken it is well worth while to consider whether the results will pay for the labor expended in securing them.

To cite an instance by way of illustration as to what is meant exactly, reference may be made to an experiment several years ago at the Illinois experimental station, with reference to increasing the protein content in the corn plant. To accomplish this even in a moderate degree several years of experimentation were called for. This was brought about by selection in the seed. The seed of corn will vary somewhat in its protein content, though of the same variety and

In Illinois protein can be abundantly supplied from other plants which would bring nitrogen to the soil also, in the process of their growth. Would it not be wiser to seek protein by growing these than by seeking it through increasing it in the corn plant?

In much of that State clover and alfalfa may be grown with at least a fair measure of success. In the southern half of the state the soy bean and the cow pea grow in good form. Would it not be wiser to encourage the farmers to grow these as a source of protein? The soy bean especially is exceedingly rich in protein. The medium varieties, as the Ito San, and the large varieties, as the Mammoth Yellow, will produce readily a tonnage that will fit them for siloing. Would it not be much wiser to grow these and to silo them with corn than to increase the protein content in corn? To the writer it would seem about as great a mistake for the Canadian stations to spend time in increasing the protein content in timothy, while they should rather be perfecting methods of growing such legumes as alfalfa.

It must not be understood that there is no place for changing or seeking



First Prize Winner at Winnipeg Poultry Show, 1918. S. C. Buff Orpington. Bred, owned and exhibited by F. J. G. McArthur.

grown in the same field. The increase in protein was considerable; notwithstanding, did the practical benefits resulting repay the outlay? Is it a wise thing to seek to add to the protein content of corn which in as far as the change is successful is made at the expense of the carbohydrate content in the corn? Corn is a fattening food. That is its distinguishing feature. Among the grain plants generally grown over wide areas corn is unquestionably king as a fatterer. Why should such a food be thus changed? Is not the amount of fat forming constituents one of the crowning characteristics of corn?

One object sought by the experimenters was to make corn more nearly a balanced ration in areas where corn is abundantly grown, but would it be for the general good if all foddere grow in balance? Would not such a condition encourage the one crop system and therefore militate against the principle of rotation? Nature evidently intended that foods should be balanced in the feed box and the manger rather than in the field in which they grow? Could the protein content be so improved in corn that it became in itself a balanced food, the area of corn culture would certainly be relatively extended. Would that be in the interests of a better agriculture, since corn is not a soil enricher?

change in the constituents of plants by way of experimentation. Take, for instance, the sugar-beet. The more that its sugar content is increased, the more valuable does it become providing such increase is not made at the expense of other good qualities in the beet. Sugar in the beet is its most valuable element. Increase in the sugar content adds to the cash value of the tonnage. A little more protein in corn than is usual may possibly add something to its intrinsic value, but it will not affect the market value. The beet is grown primarily for its sugar. Corn is grown primarily for its carbohydrates.

It is also not only legitimate but commendable to increase the starch content in potatoes when these are grown mainly for use in starch factories. Usually heavy-yielding varieties are devoted to such use. Now, if the starch content can be increased in these materially without reducing the yield, the gain is so far to be commended. But this would not justify experiment with a view to change the starch content in the ordinary edible varieties, that is, varieties in favor for table use. There would seem to be no distinct advantage from changing the starch content in these.

It is also not only legitimate but it is frequently commendable to try to so change the habit of growth in plants

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