

# PIANOS

## New Scale Williams Pianos And Player Pianos

### THE ARTIST'S CHOICE:

ENNIS & CO. Pianos and  
Player Pianos

Here is a XMAS PRESENT for your family at small cost—ENNIS & CO. PIANO, Louis design, mahogany, used only a short time. We guarantee as good as new. Original price, \$400.00; Xmas price, \$290.00. Terms arranged. F.O.B. Calgary.



An EDISON DIAMOND DISC PHONOGRAPH would make a very acceptable Xmas Gift. Write for Catalogue and Terms.

**Alexander-Kay Piano Company**  
235 Eighth Avenue West      Calgary, Alberta

**SEED GRAIN---Wheat, Barley, Oats**

**B. J. OSTRANDER & CO., GRAIN COMMISSION MERCHANTS, 524 GRAIN EXCHANGE, WINNIPEG,**  
are in a position to supply the seed grain at the very best advantage. Farmers requiring the  
most thoroughly reliable firm should write to us without delay for all particulars.  
We know of all kinds of WHEAT—Marquis and Red Fife—and OATS ready for shipment  
which we can readily get for those in need of Seed Grain. Send us samples of your grain  
for inspection and grade for the purpose of submitting same to intending purchasers.  
**FEED GRAIN.** We have had numerous orders for same and are ready to see that you get  
us your sample. We are in a position to handle it. We are licensed and bonded.  
Bankers: Union Bank of Canada

# Cheap <sup>High</sup> Grade Lumber

**These Prices are delivered Freight Prepaid to any 40c point**

2x4, 2x6, 2x8, up to 16 ft., **\$17.50**; 8 in. Shiplap, **\$17.50**; Drop Siding, **\$23.00**; Edge Grain Flooring, **\$32 00**; Common Boards, **\$17.50**; Doors, Windows, etc., at corresponding low prices.

**We Guarantee Satisfaction. How? Permit examination before payment. Send in your Order and save money**

**FARMERS' CO-OPERATIVE LUMBER COMPANY**  
Write for Free Farm Record Book **VANCOUVER, B. C.**

# LIVE OLD HENS WANTED

We will guarantee to pay the following prices, live weight, f.o.b. Winnipeg:

HENS, 8c to 10c; DUCKS (Old and Young) 9½c to 10c; OLD ROOSTERS, 7c to 8c; TURKEYS, Best Market Price; GEESE, 10c to 11c; CHICKENS, Best Market Prices.

Let us know what you have to sell and we will forward crates for shipping. Prompt Cash on receipt of shipments

ROYAL PRODUCE AND TRADING CO., 97 AIKENS STREET, WINNIPEG

engine or to the cylinder shaft. The grain drops into a box placed beneath the cylinder, from which it is bagged. It is not usually weighed until later, when notes as to yield and quality of the grain are taken at leisure by the experimenters. If necessary the grain is recleaned before weighing, either by running it through a small cleaner and grader or by an air blast.

Those rows which are markedly inferior in yield are rejected without further trial; all others are retained for a similar row test the following year; while those that seem particularly promising are increased by planting a considerable number of rows in the regular test or by sowing in a small plat. These promising strains are increased as rapidly as possible until sufficient seed is obtained to plant in the regular variety test, which is usually conducted on plats of one-tenth of an acre.

If the selection proves of value in this test it is increased until enough seed is obtained for distribution so it can be tested elsewhere and its worth for general culture determined. This process of bringing out new varieties is rather slow, but by it the Swedish Seed-Breeding Institute, which first developed it, has produced some of our best strains of barley and oats for the northern states, and the Minnesota Experiment Station, by conducting tests in square blocks of one hundred plants, called centgeners, instead of in rows, has developed some very fine pedigreed strains of spring wheat, oats and barley.

Other American experiment stations have done good work in this line, and a large number of workers are now engaged in breeding the small grains, both by selection and by hybridization.

so that in a few years we may expect to see marked improvement in our varieties. The production of new varieties by hybridization includes the rather delicate operation of hand pollination, followed by continued selection of the progeny through several generations to fix desirable types.

What of the practical value of this work? It is just as important and just as valuable as that which is being done by the corn breeders—perhaps even more valuable—for when these high-yielding or otherwise desirable varieties are separated from the mixtures we now have, they are more stable and will retain their value longer than will varieties of corn. In my own work I have found pure-line selections which yielded twice as much as others from the same commercial variety of oats. Increases of several bushels to the acre over old varieties are quite readily obtainable; the increase of even one bushel to the acre over any one of our large grain-producing states runs into surprising figures of yields and values. For instance, more than 4,000,000 acres of oats are grown annually in the state of Iowa. Increasing the yield a bushel to the acre would mean more than 4,000,000 bushels increase annually, worth perhaps in ordinary years \$1,500,000. Surely that is a result worth accomplishing, and it is one the breeder of small grains can get quite readily in time.

"But," you say, "if you start from a single head or plant it must take many years to get enough seed to sow any appreciable area."

Not nearly so long as you might think. Let us figure a bit. The thirty or forty or more seeds in the single head will produce at least an ounce of seed

Continued on Page 26



## Grain Growers' Special One-Man Outfit

**"Success Follows  
The Plow"—**

***The More Plows  
the Greater the  
Success!***

Good deep plowing is the first step toward a good seed bed, which is required if you expect a good crop. **The Grain Growers' Special** is the greatest value ever offered the Canadian farmers at our price—**\$850.00** for the Tractor, **\$140.00** for our Three-Bottom 14-inch Power Lift Tractor Plow—**\$975.00** for complete outfit when taken on one order. Write for specifications.

## Tractor School for those Interested

We have made arrangements for a first-class instructor, and, if enough farmers are interested will start on January 15th, 1915. Write for particulars at once.

# THE GRAIN GROWERS' GRAIN CO. LTD.

## WINNIPEG

## FORT WILLIAM

## CALGARY

**NEW WESTMINSTER, B.C.**