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is the every purpose farm power plant and the work it performs is practically unlimited. It produces maximum power at minimum cost. 150,000 farmers are daily demonstrating that the "Z" is the greatest engine ever produced. The 3 and 6 h. p. "Z" Engines burn coal oil, distillate or any of the cheaper fuels and develop more than twice horse power.  $1\frac{1}{2}$  H. P. \$71.00 3 H. P. \$126.00 6 H. P. \$225.00 F. O. B. Montreal and Toronto

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Herold's Farms, Fruitland, Ont.  
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## Sydney Basic Slag

Mr. Charles W. Thompson,  
R. R. No. 2, Bienheim,  
Kent County, Ontario,

Writes on 21st January, 1915:—

"Judging from increased sales your Basic Slag is good stuff, as I sold over six times as much for the fall of 1917 as I did for the fall of 1916. One man bought three tons (who had never used it before), because he told me his neighbor got thirty bushels of wheat per acre by using your Basic Slag, while he only got eighteen bushels per acre by using a heavy application of barnyard manure on the same kind of soil. It has given me wonderful returns on wheat, pasture, clover, tomatoes, strawberries, cabbage and sugar beets. I have not tested it on other crops myself."

Write us for our new pamphlet and let our representative call on you.

**The Cross Fertilizer Co., Limited**  
Sydney, Nova Scotia

## Some Results of Cow Testing in B. C.

One Herd Increases Its Average From 286 to 419 lbs. of Fat Per Cow—By T. A. F. Wiancko, Provincial Dairy Instructor

MANY valuable lessons have been learned from the work carried on by the various cow testing associations in British Columbia. Active associations are well established at Chilliwack, Ladner, Langley-Surrey, and Comox, and some two thousand dairy cows are constantly under test. The system followed provides that the tester visit the farm of each member of the cow testing association once each month, and take weights of milk both night and morning, with samples of each cow's milk for a test. The tester is provided with a suitable testing outfit to do the work of testing at the farm. The total day's milk is taken as an average day's production, and is multiplied by the days in

| Herd. | Year. | No. of cows. | Av. milk, lbs. | Av. fat, lbs. | Animals under 3 yrs. |
|-------|-------|--------------|----------------|---------------|----------------------|
| A.    | 1915  | 12           | 8,496          | 304           | 1                    |
|       | 1916  | 16           | 6,898          | 294           | 8                    |
|       | 1917  | 4            | 4,402          | 301           | 1                    |
| C.    | 1916  | 8            | 6,054          | 265           | 6                    |
|       | 1917  | 6            | 4,031          | 219           | ..                   |
|       | 1917  | 6            | 4,479          | 290           | ..                   |
| D.    | 1916  | 10           | 4,353          | 236           | 3                    |
|       | 1917  | 13           | 7,289          | 365           | 3                    |
|       | 1916  | 11           | 6,508          | 356           | 4                    |

the month. Knowing the weight of milk and its test for butterfat, a simple calculation gives the total production of butterfat for the month. This is entered into a form provided for the purpose, and which also includes such other particulars as the amount of feed consumed by the cow, figured on a monthly basis. Thus, at the end of a cow's lactation period the farmer has before him in a concise form full particulars regarding the cow's performance, including costs of all feeds consumed by her, and such other particulars as cost of producing 100 lbs. of milk, cost of producing 1 lb. of butterfat, profit over cost of feed, etc. The information afforded by these records gives the farmer a very close approximate of the performance and profit or loss of each individual cow in the herd.

The benefits of this method of keeping dairy records is very forcibly shown by the study of a few outstanding features in the work in the Comox Association during the past two years. During the year 1917 there were 408 cows on test, and 202 of these finished a full lactation period within the year; the difference in fact that a number of cows reacted to the tuberculin test and were replaced by fresh animals; a number of cows that were found to be non-productive were sent to the block; and some members dropped out of the association, and were replaced by new members.

### Marked Increases in Production.

A marked increase in the production of individual cows is shown by the following comparative figures:

The number of cows producing 400 lbs. of fat and over in 1916 was 4. In 1917 it was 12.

The number of cows producing 300 lbs.

| Year. | Name of Cow. | Weight. | Age. | Lbs. Milk. | Lbs. Fat. | Milk Lbs. Fat. | Increase. |
|-------|--------------|---------|------|------------|-----------|----------------|-----------|
| 1916  | Heather      | 899     | 6    | 8,647      | 266.3     | 2,681          | 164.1     |
| 1917  | Heather      | 899     | 8    | 7,498      | 438.1     | 3,181          | 184.1     |
| 1916  | Darbie       | 800     | 6    | 8,219      | 426.3     | 2,857          | 164.1     |
| 1917  | Darbie       | 800     | 8    | 7,818      | 438.1     | 2,857          | 164.1     |
| 1916  | Silver       | 650     | 7    | 4,201      | 241.7     | 1,497          | 133.1     |
| 1917  | Silver       | 650     | 9    | 7,798      | 394.0     | 2,497          | 133.1     |
| 1916  | Polly        | 769     | 6    | 6,656      | 323.4     | 1,439          | 204.1     |
| 1917  | Polly        | 990     | 7    | 11,443     | 621.9     | 4,839          | 204.1     |
| 1916  | Fannie       | 1,000   | 7    | 7,980      | 394.5     | 1,824          | 125.1     |
| 1917  | Fannie       | 1,000   | 9    | 11,594     | 627.3     | 4,847          | 204.1     |

of fat and over in 1916 was 29. In 1917 it was 72.

The Two Years Old and Over.

A comparison of highest producers follows:

| Year. | Name of Cow. | Weight. | Age. | Lbs. Milk. | Lbs. Fat. | Milk Lbs. Fat. | Increase. |
|-------|--------------|---------|------|------------|-----------|----------------|-----------|
| 1916  | 1917.        |         |      |            |           |                |           |
| 1916  | 1917.        |         |      |            |           |                |           |
| 1916  | 1917.        |         |      |            |           |                |           |
| 1916  | 1917.        |         |      |            |           |                |           |

Highest cow ... 10,872 447.3 3,823 204.1

2nd " " ... 8,025 444.2 3,025 204.1

3rd " " ... 5,841 444.2 1,776 204.1

### Two Year Olds.

| Year. | Name of Cow. | Weight. | Age. | Lbs. Milk. | Lbs. Fat. | Milk Lbs. Fat. | Increase. |
|-------|--------------|---------|------|------------|-----------|----------------|-----------|
| 1916  | 1917.        |         |      |            |           |                |           |
| 1916  | 1917.        |         |      |            |           |                |           |
| 1916  | 1917.        |         |      |            |           |                |           |

Of the 203 cows that have finished lactation periods in 1917, the average production was 5,806 lbs. milk and 281.5 lbs. fat, with an average test of 4.77% fat, as against 5,828 lbs. milk and 321 lbs. fat with an average test of 4.56% fat in 1916. The figures for 1917 include 37 two-year-olds.

One of the most gratifying results in the work is the 75% considerable increase of production of individual herds, of which the following are a few examples:

| Year. | Name of Cow. | Weight. | Age. | Lbs. Milk. | Lbs. Fat. | Milk Lbs. Fat. | Increase. |
|-------|--------------|---------|------|------------|-----------|----------------|-----------|
| 1916  | 1917.        |         |      |            |           |                |           |
| 1916  | 1917.        |         |      |            |           |                |           |
| 1916  | 1917.        |         |      |            |           |                |           |

In J. McMillan's Herd.

The results shown above are largely due to the increase in care and attention given the cows, and indicate that the members of cow testing associations through the medium of the weigh scales and record sheets, in conjunction with the Babcock test, soon learn that all cows are not alike, and that they must be studied as individuals and fed and handled accordingly. They have learned that cows will produce milk profitably unless provided with food of the right kind, and in sufficient quantity. This fact is strikingly apparent in the case of the herd of Mr. J. McMillan, of Denman Island. In 1917 the management of the herd was taken over by a live young herdman, Mr. Alfred Bardal, who soon found in the herd excellent material as milk producers if properly handled. He accordingly set to work to study the individuality of each cow in his charge, more and better feeds were tried out, and water was made available to the cows at all times. A comparison of the results obtained in 1916 and 1917 shows cows gave a total of 97,723 lbs. of milk and 4,862 lbs. of fat, with a feed cost of \$380.00 for roughage, and \$187.00 for grain. In 1917 sixteen cows gave a total of 144,467 lbs. of milk and 1214 lbs. of fat, with a feed cost of \$500.00 for roughage and \$525.00 for grain, or an increase of 46,744 lbs. of milk and 2,262 lbs. of fat for the additional \$15,000 spent in feed. The average fat production per cow in 1916 was 286 lbs. as against 419 lbs. of fat per cow in 1917. To illustrate the result of extra feed and attention given in this herd, especially to cows of below special interest, note the difference in weight of the cows in the second year.

Another outstanding feature is the "small air of tidiness. The milk is strained through a cloth, washed, as well as separate dairy are pure white, and the barns, poultry house and manure pits are painted in a farm red. A visitor walk around back of

W's Welcome F  
Trade increases the  
VOL XXXVII

A S  
On Their 75 Ac

A COUPLE of weeks pleasure of spending the winter in the Tinkless Stock Co., Ont., and I must say I was very much away much interested in the Tinkless Stock Co. farm idea. The Tinkless Stock Co. has 75 acres, and a very large dairy of 1500 milkers being kept by Tinkless and his marriage employed the year round receive a comfortable salary as well as a common state of mind. The larger dairy of the contrary they are their work. They quit night the year round cheese coming in every day the aid of a Ford car share of enjoyment I shall the contentment from their farming of to appear in their First

The first thing that keeps Stock Farm is its location right in a road which divides the rural location for the year's farm work, and for the pasture for the cows far from the mile from the barn where the milk is shipped half a mile just gives "visit" with other farms the disadvantage of work—and in fact a whole heap of advantage.

Besides the location milk to Montreal, and this farm. It is this market ever prove slow in midsummer, these cheese factory situated a few hundred yards from the Tinkless dairy milk may be marketed advantage. This is a similar advantage during busy season in summer time cannot well be for the trip to the store and fortunately it is a reason that the milk market is best supplied from other sources. Tinkless Stock Farm is all cleared and cultivated and is watered by streams without being cut up by them.

Another outstanding feature is the "small air of tidiness. The milk is strained through a cloth, washed, as well as separate dairy are pure white, and the barns, poultry house and manure pits are painted in a farm red. A visitor walk around back of