The \$600-a-Ton Food Analyzed. To the Editor FARMER'S ADVOCATE

DEAR SIR,-The condimental stock food forwarded by you for analysis, on March 17th, consists largely of finely-ground linseed meal or cake, to which has been added common salt, saltpetre, and copperas (sulphate of iron). It has been flavored by the addition of a small amount of fenugreek.

The prices generally asked for such condition powders are far in excess of their value, whether such materials be considered as medicine or food, or both. The stock-feeder or dairyman will find it greatly to his profit to obtain such medicine or treatment as his animals may at any time require rether than to pay a variable of the properties. rather than to pay exorbitant prices for materials which may or may not benefit his stock, and the nutritive value of which is certainly less than many concentrated feed stuffs on the market.

The analysis affords the following data:

Moisture				 	8.38	per cent
*Ash						
Protein o	ralbun	ninoi	ds	 	15.74	**
Fat				 	6.37	**
Fiber	h			 	5.15	11
Carbohyd	trates.			 	51.10	**

FRANK T. SHUTT,

Chemist, Dom. Exp. Farms. IED. NOTE.—The stock food analyzed by Prof. Shutt, and referred to by him in the above letter, was that to which reference was made, in our issue of March 15th, as being sold by travelling agents at \$600 per ton. In order that our readers may the more accurately estimate its value from its contents, as proved by analysis, we give the average com-

position of corn, peas, and oats, according to Prof. Stewart in "Feeding Animals":

Corn-		
Moisture	14.4	per cent.
Ash		"
Albuminoids,	10.0	***
Fat		**
Fiber	5.5	**
Carbohydrates	62.1	**
	100.	
Peas-		
Moisture	14.3	per cent.
Ash	2.4	. 11
Albuminoids	22.4	**
Fat		- 11
Fiber	6.4	"
Carbohydrates	52.5	11
	100.	
Oats—	100.	
Moisture	14.3	per cent.
Ash		"
Albuminoids	12,0	11
Fat		"
Fiber	9.3	***
Carbohydrates	55.7	**
	100	

A comparison of the above tables shows the stock-food mixture to compare favorably with oats, peas or corn for their feeding value. The addition of a small quantity of salt, saltpetre, copperas and fenugreek could not possibly enhance the value of the mixture materially.]

Windmill Power on the Farm.

To the Editor FARMER'S ADVOCATE:

In reply to a request of your subscriber for power, I wish to say that I consider them a fine thing on the farm. We are using a mill put up by the Ontario Wind Engine & Pump Co., Toronto, and it is a satisfactory machine in every way but one, and that is there are times when we would like to use it when there is no wind. We grind, pulp turnips, run grindstone and cut feed. Our feed cutter is Watson's Excelsior (13-inch. throat), and when there is a good breeze blowing we can cut sheaf oats as fast as a man can feed them, and our wheel is only a 13-foot one, yet I believe it will develop from six to eight horse power. For chopping and cutting turnips it is just fine, and if you want an axe or any other tools sharpened, it is a want an axe or any other tools sharpened, it is a pleasure to do it with a power grindstone, to say nothing of the better work done. The other day I ground five chisels, a drawing knife, two other knives and the blade of a jack plane in less than twenty minutes. This has been a fine winter for wind, hardly a day without enough to cut turnips; I do not think we missed five feeds that we did not have turnips out with the windrail. have turnips cut with the windmill. A year ago I made the woodwork of a root pulper (I got the wheel from a neighbor that was burned out), and put carriers on it. It works fine, and in the fall we had it set in the barn and we could pulp away into the wheelbarrow and then wheel them out to the pigpen. The carrier is a great advantage, in my mind, and I think manufacturers should fit their

pulpers with carriers.

I am well pleased with the windmill and would not be without it for a good deal, and it always gives me great pleasure to recommend it whenever I have a chance, and am sure that any man who purchases a windmill will feel that he has got good value for his outlay. Ours is up about two years now and has not cost a single cent, only for oil, after the first cost. I have not tried it pumping water, but believe it would be just as satisfactory and probably more so.

W. J. Anderson.

and probably more so. Simcoe Co., Ont.

Various Forage Crops for Summer Pasture.

The uncertainty of grass pastures in the dry summer months during the last few years has led many farmers to resort to a system of partial or complete soiling of stock from the time pastures begin to fail till the fields again provide ample support for the stock. Probably the most satisfactory method of soiling is found in the use of the summer silo, as the feed is then convenient and ready for use with little labor. With some classes of stock, however, and where satisfactory help is difficult to secure, soiling is more or less impracticable. In view of this condition of affairs we have given some attention to the adaptability of certain crops that may be grown on the ordinary stock farm to be used as pasture during seasons when grass fields present a browned and bare appearance.

Probably the most extensive investigation of the value of annual forage plants for summer pasture for cows that has been conducted on the continent was carried out by Profs. T. L. Lyon and A. L. Haecker at the Nebraska Experiment Station in the summer of 1898. The bjects were to throw light on the following points: 1st, the possibilities of preventing a decrease in the milk flow of cows during the dry period of summer by the use of annual forage plants; 2nd, whether permanent pasture can be in part or wholly substituted by annual forage plants; and. 3rd, the relative values of the most promising of these crops as feed and butter producers

FOR DAIRY COWS.

In the experiment, plots of land one-fifth of an acre in size were sown to each of the following crops: Fall rye, oats and peas, hairy vetch, Indian corn, millet, sorghum, white Kafir corn: When the yellow maize, soy beans and cow peas. crops reached a suitable stage for pasture, ten cows of the dairy herd were turned in, one in each plot, and kept there until the crop was eaten down. The cows were weighed before and after the experiment, and the milk was weighed for each day. Each cow was pastured on alfalfa for at least one month before being placed on the test crop (period I.) and for at least one month afterwards (period III.); the time she was in the test plot was known as period II.

The following table shows the results obtained in

the experiment:

Name of cow pastured. Bessie Annie Diana Cora Bessie Eloise Gertie Hattle Juno Diana Began pasturing. June 13 June 26 June 26 June 26 June 26 June 13 July 13 July 13 July 13 July 13 July 13 July 14 July 15 July 15 July 15 July 16 July 16 July 18 July 18 July 18 July 18 July 19 July 18 July 18 July 19 July 19	Rye. Peas. V	Hairy Indian Vetch.	Millet.	Sorghum	White Kafir Corn.	Yellow Millo Maize.	Soy Beans.	Cow Peas.
Juhe 13 June 28 June 29 July 15 July 12 July 13 Aug. 4 Aug. 14 Aug. 4 Aug. 4 Aug. 16 Aug. 14 Aug. 4 Aug. 4 Aug. 4 Aug. 4 Aug. 6 23 24 <td>Annie</td> <td><u> </u></td> <td>1</td> <td>Eloise</td> <td>Gertie</td> <td>Hattie</td> <td>Juno</td> <td>Diana</td>	Annie	<u> </u>	1	Eloise	Gertie	Hattie	Juno	Diana
July 5 July 12 July 13 Aug. 4 Aug. 14 Aug. 16 22 24 22 24 22 24 22 24 22 24 22 24 25 25	June 13			July 13	July 13	July 13	:	
22 16 23 20 32 22 24 " +9 -4 +60 -2 -11 +28 +32 +40 +2 +12 -4 +60 -2 -11 +28 +32 +40 +2 +23 +25 -18 +25 +20 +18 +3 -20 +12 -3 +48 +4 +83 -15 0 +20 -2 28.09 24.94 20.89 24.77 24.31 24.48 19.07 21.34 15.00 24.60 19.94 18.39 20.23 20.23 19.78 15.31 8.00 13.81 23.81 23.12 21.17 23.94 23.44 19.37 14.06 4.80 13.44	July 5			Aug. 14	Aug. 4	Aug. 6		:
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				32	22	24		
+9 -4 +60 -2 -11 +28 +32 +40 +2 +23 +25 -18 +23 +25 +20 +18 +33 -20 +12 -3 +48 +4 +83 -16 0 +20 -2 28.09 24.94 20.89 24.77 24.31 24.48 19.07 21.34 15.00 24.60 19.94 18.39 20.36 20.23 19.78 15.31 8.00 13.81 23.81 23.12 21.17 23.94 23.44 19.37 14.06 4.80 13.44				18.7	19.2	15.1		
+23 +25 -18 +23 +25 +20 +18 +33 -20 +12 -3 +48 +4 +83 -15 0 +20 -2 28.09 24.77 24.31 24.48 19.07 21.34 15.00 24.60 19.94 18.39 20.36 20.23 19.78 15.31 8.00 13.81 23.81 23.12 21.17 23.94 23.44 19.37 14.05 4.80 13.44	6+ *			+ 28	+32	+40	+2	+31
+12 -3 +48 +4 +83 -15 0 +20 -2 28.09 24.77 24.31 24.48 19.07 21.34 15.00 24.60 19.94 18.39 20.36 20.23 19.78 15.31 8.00 13.81 23.81 23.12 21.17 23.94 23.44 19.37 14.05 4.80 13.44	+ 23	20		+30	+18	+33	- 20	1 33
28.09 24.94 20.99 24.77 24.31 24.48 19.07 21.34 15.00 24.60 19.94 18.39 20.36 20.23 19.78 15.31 8.00 13.81 23.81 23.81 23.44 19.37 14.06 4.80 13.44	+12		1	- 15	0	+20	-2	+35
24.60 19.94 18.39 20.36 20.23 19.78 15.31 8.00 13.81 23.81 23.12 21.17 23.94 23.44 19.37 14.05 4.80 13.44	28.09 24.94			24.48	19.07	21.34	15.00	18,68
23.81 23.12 21.17 23.94 23.44 19.37 14.05 4.80 13.44	24.60 19.94			19.78	15.31	8.00	13.81	16.73
	23.81 23.12	_	_	19.37	14.05	4.80	13.44	14.36

The Oats and Peas were sown at the rate of two bushel of each per acre and harrowed in on April 15th, and the cow turned in June 13th. She 15th, and the cow turned in June 13th. She pastured here 22 days. A duplicate plot yielded at the rate of 8.67 tons of green crop per acre.

The Rye was sown in the fall at the rate of one

bushel per acre, producing rather a poor stand, and therefore did not give a fair test. Experiments conducted at that Station in 1897 indicated that rye produced a very abundant pasture, which places it in the lead of all the crops tested for early spring

Indian Corn was sown in rows six inches apar at the rate of two bushels per acre, on May 20th On June 20th the cow was put in, and by July 13th she had the crop well eaten down. A duplicate plot yielded at the rate of 16.77 tons of green forage

Millet.—The common variety was sown on June 2nd, in rows six inches apart, or at the rate of one and one-half bushels per acre. On July 15th the cow was turned in, where she remained till August 4th. The crop was closely eaten down. A duplicate plot of forage yielded at the rate of 11.60 tons per

Sorghum.—Early Amber variety was drilled in on June 1st, in rows six inches apart, at the rate of two bushels of seed per acre. The cow was put in on July 13th, when the crop was about two feet high. She remained till August 14th, when the crop was fairly closely eaten. A duplicate plot cut August 17th yielded at the rate of 18.67 tons per acre of green forage.

Kafir Corn.—The White variety was drilled in

on June 1st, in rows six inches apart, at the rate of two bushels per acre. The cow was turned in July 13th, when the crop was two feet high. She had the crop well eaten down on August 4th. A duplicate plot cut on August 17th, just before heading, yielded at the rate of 19.20 tons of forage per acre.

Yellow Millo Maize was sown in rows six inches apart, at the rate of two bushels of seed per acre, on June 2nd. On July 13th the plants were two feet high, when the cow was turned in. She grazed till August 6th. A duplicate plot yielded, on August 6th, at the rate of 15.12 tons of forage per acre. Cow Peas and Soy Beans did not produce sufficiently full crop to afford a fair test.

Of all the forage crops tested, sorghum furnished by far the greatest amount of pasture. For medium early pasture, oats and peas produced the most feed.

Improving the Fall Fair.

In this and late issues the subject of township fairs is discussed by several contributors, additional suggestions of value being made for the improvement of these and other exhibitions. This is a branch of the subject upon which we would be glad to hear further from various sections of the Dominion, because there is no reasonable doubt that very many shows are not the incentive to agricultural progress which they are intended to be, largely for the want of energy and new ideas. Now is the time to begin putting fresh life into the local show that will bear fruit next autumn. Such hints are in order as those of Mr. Hy. Arkell in our last issue, viz., the giving of prizes for the best groomed and harnessed team, best broken team, best walking team, best heavy draft team suitable for export, etc. At several fairs much interest has been awakened by milking trials, in which some of the best dairy cows of the township or district have entered a competitive test conducted by competent experts. Messrs. Arkell and Tolton both suggest that exhibitors should not receive more than one prize in any one section of a class.

In this connection we are indebted to Mr. Jas. Mitchell, of the Goderich (Ont.) Star for a detailed account of the proceedings of the Canadian Fair Association meeting recently held in Toronto, of which he is one of the vice-presidents. Among the suggestions made in the direction of legislation was one to the effect that the Government grant to the agricultural societies, of which there are some 470 in the Province, should be made not on the basis of membership, but of the amount of money paid in premiums, the principle on which Government aid is extended to public libraries. It was pointed out that the province of the province o that the present membership condition was in order to give the society incorporated status, and thus hold property such as buildings and grounds. One speaker proposed that only such fairs as are un-mistakably successful should be kept alive by public

money, but no definite recommendation was made upon that point. Professional or expert judges from a distance, at least from another county, were favored, unless in special cases, where there was a very large exhibit to judge. There was discussion on the question of having township exhibitions open only to residents of the municipalities, except in special cases, which in the judgment of the directors

might be left open. The question of special attractions was discussed at length and the general tenor of the report leaves this impression, that in some form or other they were regarded as essential to financial success, but their character was deserving of very great care. It was reported that West York had found school children's parades, with songs and drills, and prizes for the best turnout, a good drawing feature. Lindsay also enlisted the co-operation of school children, but we think unless carefully managed such competitions might give rise to serious heart-burnings among the youngsters. At the Minnesota State Fair, attended by one of our staff, an interesting feature in the main building was the display of penmanship and drawing from various schools, and the Western Fair, at London, Ont., introduced an instructive idea by giving prizes for properly-named collections of local insects and weeds. Let us have suggestions from others as to how improvements may be made in various departments of Fall Fairs. be all that l claim that attent lieve. essary just with that a and t

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