

All Waste Should Be Saved; Agricultural By-Products Are Valuable

ALL BY-PRODUCTS MUST BE SAVED IF PROFITS ARE GOOD

By B. C. Stewart
Utilizing the byproducts often means the difference between profit and loss. For many years our largest industries allowed vast quantities of the cull material to go to waste. Waste material is now utilized in every conceivable shape and form. The list of byproducts from manufacturing concerns includes most everything from stock feed to fertilizer and from vegetable oils to dye.

It is only in recent years that the byproducts of our largest and most important industry have been recognized and any attempt made to conserve them. I. e., the agricultural industry. The manufacturer has been urged to work out systems of conserving every atom of waste, and has benefited by the results of this study. The agriculturist has depended upon the experiment stations to work out his problems. In most cases he pays but little attention to the findings, and as a result few are profiting by the knowledge worked out. Many are utilizing some of their byproducts, very few are using all of their waste material.

STRAW IS WASTED

In this and in future articles the writer will take up the discussion of conserving the waste materials in the various lines of agriculture adapted to this region.

In grain farming one of the largest sources of waste is the straw. Until recent years almost all of the straw was burned, notwithstanding the fact that nearly all of the land was lacking in humus. The writer has counted as many as 50 large straw stacks being destroyed in one fall evening, all of them on land badly in need of more humus. True enough the land where the stack was located was much richer, but at the expense of the entire farm.

GOOD EFFECTS SEEN

The effect of putting the straw back into the soil can be seen for several years. There is but very little land that is not benefited by the addition of more humus. Earthworms will not thrive in soil devoid of humus. Without earthworms surface drainage will be poor. Plant roots need the decayed vegetation and the humus matter that has been ground up by the earthworms to feed the young plants. The more decayed vegetable matter the soil contains the better it will drain, the warmer it will stay in winter and the more moisture it will hold during a dry spell.

Probably the greatest disadvantage in returning the straw to the soil is the returning of the weed seed and in some cases scattering the soil contains some burr seed. One way to partly overcome this objection is to keep the straw from weed infested fields separate from the rest, and to pile the straw back on the area from which it was taken. Most of the weeds will have receded the area in which they grew anyway, and will have been killed out by constant summer cultivation of the soil.

STRAW VALUABLE

Where livestock is kept—and it should be kept on every farm—much of the straw can be used for winter feed. With the addition of a little stock molasses, straw is relished by the stock and they will winter out very nicely. By feeding a little grain or preferably ensilage, the stock will show material gains on this very economical ration. In stables or sleeping and feeding sheds in liberal quantities of straw should be kept during the winter months. It will not only keep the animals cleaner and in a healthier condition, but will absorb the liquid manure and become very valuable as a fertilizer.

Making use of the natural byproducts often means the difference of a loss or gain on the farm balance sheet.

WILL ADVERTISE SKOOKUM APPLES



Norton L. Moffe has been secured as advertising manager for the Skookum Apples association.

Dairymen Help Poultrymen
Resolved, that the Oregon Dairymen's Cooperative league hereby inform the Pacific Cooperative Poultry Producers and urge every poultryman in Oregon and southwestern Washington to join this poultry association. The Oregon Dairymen's Cooperative league extends its best wishes for the fullest success of the Pacific Cooperative Poultry Producers and assures that organization that it will have the hearty cooperation of the cooperative dairymen.

Done this 7th day of June, 1920, at Portland, Or.
(Signed)
OREGON DAIRYMEN'S LEAGUE.

ninth week of the international laying contest at Storrs is the fact that a Long Island pen of Barred Rocks from Westhampton Beach has relegated to second place a Massachusetts pen of Rhode Island Reds from Groton that has hung tenaciously to first place since the second week of the contest.

During the twenty-ninth week, 82 hens, including Barred, White, Buff and Columbian Rocks, White and Buff Wyandottes, Rhode Island Reds and Rhode Island Whites, Light Brahmans, Dark Cornish, Oregon and White Leghorns made perfect weekly individual scores by laying eggs each. Oneck Farm's pen of Barred Rocks from Westhampton Beach, L. I., laid 63 eggs, thus outstripping all other pens for the week.

Usually hens make better breeders than pullets. Cockerels, if well grown and matured, often give better fertility than older birds. However, cock birds that have proved good breeders should be used.

Winlock Poultrymen In Cooperative Plan

A meeting of the Poultrymen of Winlock, Wash., was held on the evening of June 9. A good sized crowd displayed much interest in the new plan of organization. Arthur Goldsmith explained the new cooperative plan. About 40,000 hens were signed up at the meeting. The Winlock people are planning on adopting a cooperative system into all features of their industry.

43 Jerseys Bring \$20,285 at Sale

At the registered Jersey sale held on June 10 by G. G. Hewitt, near Monmouth, Or. 43 head brought a total of \$20,285, making an average of over \$471. The top animal brought \$1300, going to T. J. McKee of Independence.

FIGURES SHOW RAISING PULLETS QUITE EXPENSIVE

By C. S. Brewster
It is a well established fact that growing pigs make the cheapest gains in weight while young. According to Dietrich, it takes about four months for a pig to grow his first hundred pounds. He will consume during this time about 240 pounds of feed. To grow the second 100 pounds takes only two months but 300 pounds of feed. The third 100 pounds requires nine months and about a ton of feed.

The data collected at the Storrs station seems to indicate that a very similar condition exists with chickens. The following table gives average figures for Rhode Island Reds:

Number of weeks to make each pound of gain	1st. 2d. 3d. 4th. 5th.
1	6.5 5.5 5.5 5.5 10.0
2	3.0 2.9 2.9 2.9 10.0

It is quite evident that the fifth pound is a much more expensive increase than the second or third. For instance, as an example, take a flock of Rhode Island Red pullets averaging three pounds in weight. To put them up to five pounds each will take 25 pounds of feed, according to the above, which will cost at least a dollar, assuming that feed will cost about 4 cents per pound.

LEGHORNS TAKE LESS FEED
The next table shows the same data for the Leghorns, with the exception that the figures are only given up to three and one-half pounds, since very few Leghorns reach four pounds in weight. The Leghorns show up better in the comparison because they do not have so long a time to grow:

Number of weeks to make each pound of gain	1st. 2d. 3d. 4th. 5th.
1	7.5 5.5 6.0 4.0 4.0
2	3.2 4.5 7.0 5.0

The next table shows the same data of pounds of feed consumed for each pound of gain made in successive eight-week periods, and the cost when figured at 4 cents a pound for feed. Figures for the fourth period are omitted in the case of the Leghorns, as this would exceed them beyond the period of ordinary growth:

Period.	Feed per pound.	Cost.	Feed per pound.	Cost.
1-4	3.5	\$0.14	3.5	\$0.14
5-8	3.5	.14	3.5	.14
9-12	3.0	.12	3.0	.12
13-16	2.9	.12	2.9	.12
17-20	2.9	.12	2.9	.12
21-24	2.9	.12	2.9	.12

The last table shows the average amount of feed consumed a week by each 10 chicks at different stages in their development. It is to be noted that the Reds keep a little ahead of the Leghorns from the first:

Weeks.	R. I. Red, pounds.	Leghorns, pounds.
1	1.03	.93
2	1.92	1.72
3	2.72	2.50
4	3.51	3.28
5	4.31	4.07
6	5.10	4.86
7	5.89	5.65
8	6.68	6.44
9	7.47	7.23
10	8.26	8.02
11	9.05	8.81
12	9.84	9.60
13	10.63	10.39
14	11.42	11.18
15	12.21	11.97
16	13.00	12.76
17	13.79	13.55
18	14.58	14.34
19	15.37	15.13
20	16.16	15.92
21	16.95	16.71
22	17.74	17.50
23	18.53	18.29
24	19.32	19.08

LEGHORNS CHEAPER AT FIRST
To grow a Rhode Island Red pullet to 24 weeks of age requires about 24 pounds of feed. To grow a Leghorn to the same age takes about 19 pounds. After that age the consumption is from one and a half to two pounds to each bird a week. When there is added to the feed cost the cost of hatching, incubation, fuel for brooding, use of equipment and labor, it is readily seen that the raising of pullets is not an inexpensive proposition and that if a person expects to buy good pullets he must expect to pay a good price for them. Because the cost of feed increases so rapidly as the birds grow older it is important that the young stock should have the very best of care and an abundance of good feed to ob-

SOME FINE PRODUCERS



Heavy laying stock and clean surroundings are essential in the poultry business.

Hand's Jersey Herd Of 20 Head Brings \$7300 at Auction

Salem, Or., June 12.—The entire registered Jersey herd of H. W. Hand of Orland, Cal., was sold at public auction at the state fair grounds here yesterday, the 20 cows and heifers yielding an aggregate price of \$7300. One thousand dollars was paid for Brilliant Jersey Queen by Wait & Acra, Hood River breeders, who also bid in Goldie's Nebahem Beauty, a former Oregon Jersey, at \$960, and Lula's Lola at \$850. Colonel J. W. Hughes of Forest Grove presided as auctioneer.

Plan Duroc Hog Sale at Fair
Salem, June 12.—Plans for a show and auction sale of Duroc hogs to be held at the state fair grounds here next February, were formulated at a meeting of members of the Oregon Duroc Breeders' association here June 5. About 100 breeders from all sections of the state were present at Saturday's session which took the form of an out door picnic.

Drainage Meeting Attracts Leading Men of Association

The second annual meeting of the State Drainage association, held June 11, on drainage projects in the vicinity of Portland, brought together the most representative group of drainage men ever assembled in Oregon. There are 150,000 acres of reclaimable land in the state and the soils department of the Agricultural college is assisting in every way possible to bring this land under cultivation.

Codling Moth Here
Oregon apple growers are notified by the college entomologist that the codling moth emerged early in June and the 80-day spray should be put on as soon after June 7 as possible. Use dry lead arsenate one pound to 50 gallons water, or to 50 gallons lime-sulphur if scab is present.

PLOW LANDS GAINING IN VALUATIONS, SAYS U. S. CROP BULLETIN

When farm plow lands increase in value per acre by one fifth in one year and by one half in four years, something has occurred that may be called a "phenomenon." These increases in value are indicated by the results of investigations by the bureau of crop estimates. In March, 1916, plow lands in the United States had the average value of \$58.49; in the same month in 1917 the average was \$62.17; in 1918 it was \$68.38; in 1919, \$74.41; and at the same time of the year in 1920, \$90.01, building values in all years not being included in the average.

BIG GAIN IN MADE
The average value of 1920 is 54 per cent above that of 1916, 45 per cent above 1917, 32 per cent above 1918 and 21 per cent above 1919. Hence it appears that by far the greatest rate of yearly increase was from 1919 to 1920. To the extent that plow land values are related to crop prices, this lag in the advance of land values behind the advance in crop prices is according to rule.

Values approximately doubled in the South in four years, and that is a part of the country where plow lands have low values. They are overtaking the higher values of other states. The least rates of advance in values are found in the New England and Middle Atlantic states. In the corn belt, where values are highest, the upward movement is strong.

FBICES ARE CITED
Among the states that have high acre values for plow lands are Iowa with \$219, Illinois with \$170, California and Arizona with \$130, Nebraska with \$128, In-

diana with \$119, Washington with \$115, \$109, and Wisconsin, Minnesota and Ohio and Idaho with \$106, Utah, Oregon with \$100.



Farming to Beat Oil

"If the Mayflower had landed in San Francisco, New England would still be a howling wilderness!" So said an "Eighty-niner" Oklahoman when interviewed by Mr. John E. Pickett of the field staff of

The Country Gentleman

(Stage business: Yankee snorts; Westerner grins.) We all know Oklahoma as an oil state, but the truth is that there is a lot more to her than oil. There's agriculture!

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POULTRY NOTES

Can it be that Canadian citizens are profiting more by the advice of the bureau of markets, United States department of agriculture, regarding the marketing of eggs than our own people for whose benefit that advice is intended?

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Riches That Cannot Be Shared Personal Ownership a Reality

By Dr. JAMES E. TALMAGE
Of the Council of the Twelve, Church of Jesus Christ of Latter-day Saints, Salt Lake City, Utah
Note: For free copies of other articles of this series, send request to the author.

The present is an age of personal and public charity, of benevolence and altruism. As nations have had intensive training in the grace of giving, and whilst many have doled out grudgingly, others have imparted willingly, and in rich measure. The average is fair, though, as with the results of human effort in general, it ought to be better.

Thorough training in giving is an essential part of the divinely planned curriculum of the human soul. Some of the most noble and grandest of the world's heroes have been those who have given of themselves, and try to eliminate benevolence from our list of studies. Others take the reading course, but shun the laboratory training, which requires doing as distinguished from learning what they do. He who has not learned to give has but questionable title to the fundamental rights of possession.

Such comments as the foregoing have specific application to material benevolence, to the relieving of distress, to feeding the hungry, to providing employment whereby the beneficiary may be enabled to further help himself, to activity in community betterment and civic cooperation.

But there are some possessions—and the greatest worth—that no man can bestow upon his neighbor nor bequeath to posterity. Can artist or musician impart his skill through bill of sale or transfer deed? Can the man of education by will and testament devise his high attainments to an illiterate? The most that any such possessors of real wealth can do is to provide facilities whereby others may gain for themselves knowledge and skill, and to encourage such by earnest counsel, admonition and persuasion as well as by their own inspiring example.

One who through humility and obedience has gained a testimony of the truth of the Gospel of Jesus Christ is rich therein beyond all the wealth of earth; but he can assist that friend to gain a similar testimony to his own right, but he cannot share it, for it is his own. He can never give it to another nor shall stand alone, to our individual honor or shame, in the things of God, unto salvation or deliverance through willing ignorance unto condemnation.

It is not given unto man, devoid of Divine cooperation, to convert his brother; though it is the blessed privilege of the converted one to help his fellow toward conversion. The ability to repent is a gift from God, not from one man to another, nor a spontaneous growth; but the Divine bestowal is assured if the soul be contrite and receptive.

When Peter was charged with a breach of the Jewish law, in that he had associated with Gentiles, he told of the Divine manifestation whereby he had been commanded to do, and his hearers believed and exclaimed: "Then hath God also to the Gentiles granted repentance unto life?" (Acts 11:18.)

You may remember that in the parable of the ten virgins the Lord depicts the foolish five as pleading for a share of the oil with which their wise sisters were provided. But the latter refused; instead of oil they could give advice or only the defective possession of property for the utterly righteous, who, in the story, some students of property for the utterly righteous, the unscriptural heresy of super-erogation, which sprang up as a poisonous weed during the dark centuries, and they were shut out from the marriage feast. The excess merits of the righteous may be drawn upon as a bank account and apportioned to the payment of the sinner's debts—in short, that the sins of one man may be repaid through the more than average godliness of another man.

It concludes as an doctrine may be drawn upon as a bank account and apportioned to the payment of the sinner's debts—in short, that the sins of one man may be repaid through the more than average godliness of another man. The story of the ten virgins refutes the Satanic suggestion that my sins may be satisfied and be saved, and they were shut out from the marriage feast, my brother's surplus of worthiness. In the first place, no one of us has any such excess or surplus; and secondly, individual claims to salvation are strictly non-transferable.

We know no supererogation but that made available by the Atonement of Jesus Christ, through whose merits salvation is offered to all men on equal terms.

For every soul shall stand before God to be judged according to his deeds. See Revelation 20, and Book of Mormon, Alma 11:26-27.

For price list of Book of Mormon and other publications, including "The Vitality of Mormonism," which contains 104 of these articles, apply to Northwestern States Mission, 818 East Madison St., Portland, Or.