

by Ted Padbury, P.Eng.
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 1260 - 8 Avenue
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 S4P 3V7 - (306) 565-6591

Chaff - collect, haul and feed

Why? - livestock feed - reduce amount of herbicides required
 - remove weed and volunteer crop seeds - reduce toxins that inhibit germination

Problems - reduce combine speed?

How? and Recommendations -

A. Short straw - utilize chaff only - Rem vacuum/front-end loader
 - incorporate straw - haul 2-3 ton truck
 - Rem chaff blower and wagon (1500 lb.) - unload (pile/building)
 - electric wire feed

- Rem Manufacturing, 2180 Oman Drive, Swift Current, (306) 773-0644

Two users - farmers:

Mr. Jim Mann, Hodgeville, Saskatchewan, S0H 2B0, (306) 677-2872

Fed chaff for six years. Now uses chaff auger and blower on JD 6601 pull-type combine and pulls 8'x8'x24' steering chaff wagons behind each (3½ ton chaff capacity). All powered by a JD 4430 tractor. Three wagons are used. These are pulled by half-ton, or four-wheel-drive trucks from combine to feeding location; chaff loads are pulled off and bulldozed into piles for feeding. Half the chaff is ammoniated and all is fed using electric wire feeding.

Mr. Leo Redicopp, Guernsey, Saskatchewan, S0K 1W0 (306) 946-2491

Ammoniated all the chaff feed for his cows and used large round bales ammoniated straw with tub-ground clover on top. All was electric wire fed.

For this and other chaff and straw FarmLab projects in the area, contact Bazil Fritz, Regional Livestock Specialist, Saskatchewan Agriculture, A.G. Kuziak Building, 72 Smith Street East, Yorkton, S3N 2Y4, (306) 783-9743.

B. Heavy straw - chaff on swath (Rem/Haybuster)
 - pickup (large round baler/other)
 - pickup choice (brush/flail/draper/tooth/other)
 - retain seeds and chaff
 - electric wire feed (Figure 1)

C. Ammoniate (chaff/chaff and straw) -
 Advantages: - increases feed value and livestock intake
 - eliminates weed and grain seed germination
 - whole grain digestible without crushing

Disadvantages: - cost and labor

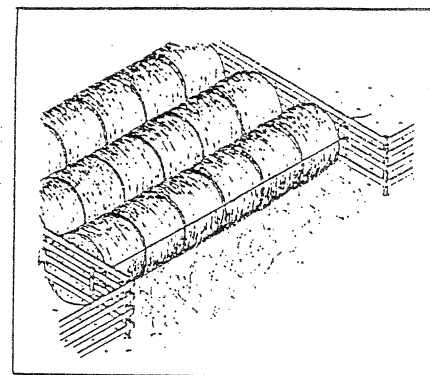


Fig. 1 - Large round bale electric wire feeding

Feed values of untreated and ammoniated chaff, straw and chaff packaged with the straw vary a great deal. Chaff feed values are most variable because the grain and weed seed contents are variable.

For low, high and average values of CP, TDN, Ca, P and value per tonne, contact Dr. Hamid Javed, Animal Industry Nutritionist, Saskatchewan Agriculture, 3130 - 8th Street East, Saskatoon, Saskatchewan, S7H 0W2, (306) 664-5088.

Most of the ammoniation of chaff and straw in Saskatchewan has been carried out under the direction of Jack Kernan, Saskatchewan Research Council, 30 Campus Drive, Saskatoon, Saskatchewan, S7N 0X1, (306) 664-5400. Techniques, precautions, procedures and recommendations for ammoniating straw and chaff can be obtained from Mr. Kernan.

Feed Potential - approximate seed acres/year in Saskatchewan: wheat 15,000,000; durham 2,000,000; oats 2,000,000; barley 3,000,000.

Suggested Chaff Systems -

- A. Large round baler machine companies: Encourage sales personnel and design engineers to develop a pickup for their large round baler that will pick up gently enough to save weed seeds, chaff and grain placed on straw swaths. This also should be good to save high-protein alfalfa leaves.
- B. Prairie Agricultural Machinery Institute: Test large round baler pickups (brush/flail/draper/tooth/other) for heavy swath of straw and chaff on top. (Also in dry alfalfa to save high-protein leaves.)

NOTE: Require recommendations to Machinery Institute from farmers and many groups to have this happen.

- C. Melfort Research Station: Straw and chaff systems research - "Gathering Cereal Straw and Chaff for Feed," by M. Feldman, Engineering and Statistical Research Institute, Agriculture Canada, Ottawa, Ontario, K1A 0C6, and E-Z. Jan, Agriculture Canada Research Station, Box 1240, Melfort, Saskatchewan, SOE 1A0, the title of a paper presented at the International Grain and Forage Harvesting Conference, Ames, Iowa, September 1977. Contact either author for a copy of this paper.
- D. Require FarmLab projects - 1. short straw - to improve system of handling and feeding; 2. heavy straw - to improve system of handling and feeding; 3. ammoniate - to determine feasibility.

Systems must be: 1. low labor; 2. low cost; 3. profitable.

To Design Engineers, and Sales Managers of the following companies:

HAY BALERS, GIANT SIZE BALE

Avco New Idea
420 S. First St.
Coldwater, Ohio
45828

Sperry New Holland
500 Diller Ave.
New Holland, Pennsylvania
17557

Deere and Co.
John Deere Rd.
Moline, Illinois
61265

Vermeer Mfg. Co.
Box 200
Pella, Iowa
50219

Ford Motor Co.
Tractor and Implement Op.
2500 E. Maple Rd.
Troy, Michigan
48084

HAY BALERS, TWINE-TIE PULL-TYPE
Agrifull Toselli S.p.A.,
via Marconi, 37
44100 Ferrara,
Italy

Gehl Co.
143 Water St.
West Bend, Wisconsin
53095

J.A. Freeman and Son Inc.
2034 N.W. - 27th Ave.
Portland, Oregon
97210

Hesston Corp.
Farm Equipment Div.
Box 545
Hesston, Kansas
67062

International Harvester Co.
401 N. Michigan Ave.
Chicago, Illinois
60611

Lundell Mfg. Co., Inc.
Box 171
Cherokee/ Indiana
51012

Massey-Ferguson Inc.
1901 Bell Ave.
Des Moines, Iowa
50315

MISCELLANEOUS ADDRESSES
Haybuster Mfg. Inc.
Box 1950
Jamestown, North Dakota
58401

McKee Industries Ltd.
4020 N.W. 36th St.
Lincoln, Nebraska
68524

Mr. Warren Denzin
Claremont Farms
RR 1
Regina, Sask., S4P 2Z1

Mitchell, Lewis and Staver Co.
801 S.E. Alder St.
Portland, Oregon
97214

Owatonna Mfg. Co. Inc.
Box 547
Owatonna, Minnesota
55060

Copies to:

Glen Frehlich
Station Manager
PAMI
Box 1900
Humboldt, Sask., S0K 2A0

Dr. En-Zen Jan
Agriculture Canada
Research Station
Box 1240
Melfort, Sask., S0E 1A0

Stu Rempel
Rem Manufacturing
Highway #4 South
Swift Current, Sask.

Regional Farmstead Engineers:

Bill Henley
Brian Campbell
Randy Vopni
Mel Bachman
Ken McKnight
Edgar Harder
Dale Sikora

Bazil Fritz
Saskatchewan Agriculture
Provincial Office Building
Yorkton, Sask., S3N 2Y4

Dr. A. Hamid Javed
Saskatchewan Agriculture
3130 - 8th Street East
Saskatoon, Sask., S7H 0W2

R.K. (Kerry) Foster ✓
Crop Development Centre
University of Saskatchewan
Saskatoon, Sask., S7N 0W0

Jack Kernan
Saskatchewan Research Council
30 Campus Drive
Saskatoon, Sask., S7N 0X1

Jim Mann
Hodgeville, Sask., S0H 2B0

Leo Redicopp
Guernsey, Sask., S0K 1W0

Mottie Feldman
Mechanization & Systems Section
ESRI
Agriculture Canada
Ottawa, Ontario, K1A 0C6

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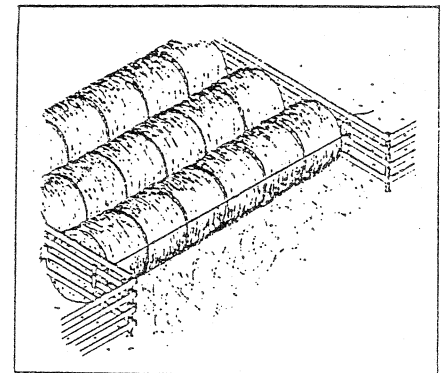


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