



Western Beef
Development Centre
Division of PAMI

Western Beef Development Centre
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NEWS RELEASE - For immediate release

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Hay predictor model suggests swift reaction from beef producers

The Western Beef Development Centre (WBDC) has developed a forage yield predictor model that will help beef producers make sound choices regarding the management of their herds. However, producers must react quickly to the realities of hay predictions in order to maximize their financial return.

“Early rainfall is a key driver of forage levels,” said Paul Jefferson, Vice President of the WBDC. “We are concerned about the dry areas, especially in south central and southeast Saskatchewan. Although farmers cannot control the weather, there are choices they can make to positively affect their outcomes.”

For drought-afflicted areas, which may achieve hay levels well below 50 per cent of average yields, Jefferson recommends planning ahead. Producers may adapt their feeding practices through in-field grazing, collecting crop residue for feed and blending grain with baled straw to make winter rations for cows. In addition, weaning calves early will decrease the cows’ nutritional requirements over the longer term. Alternately, many producers will have to buy hay and feed. Finally, culling animals remains an option. “Herd size is an obvious factor at the producer's discretion that will reduce stress on feed supplies,” said Jefferson.

The area from the southwest corner extending northeast toward Nipawin should prepare for below average yields. The northwest corner has received adequate precipitation to date, so the region's producers likely will not have to alter their practices at all.

The forage yield predictor model was developed as Jefferson attempted to discover why yield levels have been steadily declining over time. Expected drivers include precipitation and temperature. Less obvious factors include cattle population and fertilizer prices. “Fertilizer prices, which have been increasing steadily since 1992, discourage producers from its application on hay fields,” said Jefferson. “We are not seeing nutrients returned to the soil, so yields are decreasing.” Moreover, when more animals must be fed, there is less opportunity to store.

The forage yield predictor model is an innovation that can help producers mitigate risk. “Producers can still maximize their financial return, regardless of their location within the province,” said David Gullacher, CEO of PAMI. “While we all hope for ideal weather conditions from here on, planning and timely reaction to the measured temperature and precipitation data is a sounder investment.”

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BACKGROUND

About the Forage Yield Predictor Model

Dr. Paul Jefferson has been studying forage levels for 27 years. Upon observing that hay yields have been decreasing steadily over time, he sought to determine the driving forces of this trend.

Factors including temperature, precipitation, the provincial beef herd size and fertilizer prices account for 70 per cent of hay yield decline.

Using measurable data, the Western beef development center has developed a model that predicts hay yields for regions of the province with an accuracy rate of ± 400 pounds per acre, seven times out of ten.

Interpretation of the Forage Yield Predictor Model

Forces that increase hay levels:

- Spring precipitation is positive to hay yield.
- Mean temperature reflects warmer temperatures in the spring, which are necessary for plant growth.

Forces that decrease hay levels

- High maximum temperatures during the summer months deplete moisture.
- A high cattle population places stress on forage levels.
- Rising fertilizer prices create a reluctance to apply nutrients to hay fields.

Forage Yield Predictor Model Data

Location	30 year average hay yield kg/ha	Predicted 2008 hay yield kg/ha	2008 as % of average	30 year average hay yield t/ac	Predicted 2008 hay yield t/ac
Saskatoon	1665	919	55.2	0.74	0.41
Swift Current	1763	1265	71.8	0.79	0.56
Estevan	1726	681	39.4	0.77	0.30
Yorkton	1672	1076	64.4	0.75	0.48
Regina	1607	592	36.9	0.72	0.26
North Battleford	1637	971	59.3	0.73	0.43
Prince Albert	1525	1121	73.5	0.68	0.50
Rosetown	1193	1261	105.7	0.53	0.56
Maple Creek	1474	1231	83.5	0.66	0.55
Broadview	1581	991	62.7	0.71	0.44
Kindersley	1433	1523	106.3	0.64	0.68
Lloydminster	1800	1900	105.6	0.80	0.85

Meadow Lake	1455	934	64.2	0.65	0.42
Moose Jaw	1572	467	29.7	0.70	0.21
Nipawin	1652	985	59.6	0.74	0.44
Wynyard	1866	1127	60.4	0.83	0.50

About the Western Beef Development Centre

The Western Beef Development Centre (WBDC) is a division of the Prairie Agricultural Machinery Institute (PAMI) that plays a unique and vital role in the development of the Western Canadian cattle industry. As an intermediary, the WBDC communicates directly with the research community and the cattle industry. Practical and applicable research is used to provide technologies that enable producers to become increasingly competitive in today's marketplace.

As a division of PAMI, the WBDC has access to management and technical staff as well as a wide range of facilities and equipment.

About the Prairie Agricultural Machinery Institute (PAMI)

PAMI is an applied research, development, and testing organization serving manufacturers and farmers with the resources needed to compete in markets at home and around the world. Staff total 45 with operations in Humboldt, Saskatchewan and Portage la Prairie, Manitoba. PAMI is ISO 9001-2000 registered.

PAMI has a history of independent, third-party farm equipment evaluation and development that has spurred technological advances in all areas of traditional and new farming practice. PAMI is recognized as a farm technology leader around the world.

PAMI has clients in the agriculture, transport, military, aeronautics, forestry, and mining industries. Services include design, development, fabrication and evaluation of vehicles, machinery and components, as well as value-added process reviews, piloting, and optimization.

