



## NEWS RELEASE

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Immediate Release

# Big role for machinery in Saskatchewan's Plan for Growth: PAMI

June 7, 2013, HUMBOLDT —The Saskatchewan Government's Plan for Growth calls for a 10 million tonne increase in crop production by 2020. The Prairie Agricultural Machinery Institute (PAMI) believes innovation in design, selection and use of farm machinery will achieve 20 per cent of that goal.

Agricultural engineering will be a key contributor through the development and operation of better and more efficient machines.

Over the past 35 years, PAMI has helped advance what is now called the BIG-4 of farm machinery — the direct seeding air drill, tractor, sprayer and combine harvester. PAMI is working on a strategy to advance equipment research even further.

The process began last fall when they asked 30 producers and farm leaders for their input on innovation needs in the next decade during a visioning session at PAMI's facility in Humboldt.

"We are looking for input and collaboration on the specifics, but we have found the direction to go, where there is the potential to get a large part of the extra 10 million tonnes of grain the province wants and the world needs. Some of it could be through improving the systems we already have," stated Jim Wassermann, vice-president of PAMI's Saskatchewan Operations.

Saving what is being wasted, improving efficiency and increasing production by using the land base more productively are key to reaching this goal, PAMI believes.

PAMI traditionally put its focus on the cost of machinery, trying to minimize the cost to the farmer, and on the function of the machinery, to ensure it worked as it was supposed to. Now PAMI knows it must expand the focus, realizing the impact machines can have on both production and yield.

The ongoing development of a better combine, along with better machine operation, will reduce harvest losses.

"PAMI has shown in the past that better setting and operation of combines decreases losses to one per cent, less than a bushel per acre," said Phil Leduc, a senior engineer at PAMI. "The problem right now is there is no automatic way to do that while operating the machine. We need better equipment for loss monitoring and better

information passed on to the operator to allow them to adjust on the go. PAMI's role in developing this machinery and electronic systems could save up to one million tonnes of crop that is already produced but ends up laying in the field. The money was spent on seed, fuel, equipment, and the land was able to produce it, but it is lost."

Better training for operators is needed to overcome the concern that taking the time for proper machinery adjustment will slow harvest. Training operators how to adjust the machines quickly and properly can overcome that obstacle.

PAMI is also looking into whether straight cutting as a practice would reduce wind losses like those experienced in 2012, when high winds blew swaths around in the field.

Further loss of yield due to weeds could be prevented through improvements in spraying technology.

"Through improvements in spraying technology, there is the potential of increasing yield, resulting in a significant increase in tonnes of product," noted Les Hill, another of PAMI's senior managers.

Spraying is one of the biggest opportunities to improving crop yield, PAMI believes. New technology nozzles with no drift in the wind could allow farmers to spray at the right time, not according to what the wind is doing. But that technology needs to be further developed. PAMI is looking to link up with Dr. Tom Wolf, a world-renowned spray technology expert, to work on that.

There are also opportunities to improve methods of fertilizer application. With the right equipment, producers could optimize application by top dressing the ideal amount of fertilizer during the growing season, instead of guesstimating the ideal amount at the start of the season.

With irrigation seen as another real opportunity to affect production, irrigation equipment technology advancement will also help grow more crops, PAMI believes. Novel approaches on un-irrigated land may be developed. For example, designing and building a machine that will irrigate a field only a small but critical amount by gaining moisture use from local water sources like lakes or sloughs could not only help farmers put water on a field at the optimum time, but also increase the value of reserve water supplies on their land.

Right now, there is no equipment available to do this sort of supplemental watering, but PAMI could play a role in developing such equipment.

Storage of crops needs to be improved, PAMI believes. Storing grain in proper conditions and minimizing overdrying would increase the tonnage of crops at the elevator. But equipment and management practices need to be developed to get a more uniform dryness for crops in the bin.

"This would prevent farmers from drying away their profits," Hill noted.

Every bushel per acre saved through better machine use adds up to three-quarters of a million tonnes of crop saved.

"Through our expertise in machinery design and development, PAMI can work with our agricultural engineering colleagues to get 20 per cent of the way to reaching this goal," said Wassermann.

The rest of the 10 million tonnes could be found through other agricultural services like better crop rotations, better moisture and fertilizer use, and better crop varieties. PAMI researchers believe they can help with that, as well.

PAMI engineers and researchers would like to speak to producers about what they would like to see in terms of farm machinery, research and crop development in the future. They will be at the Western Canadian Farm Progress Show at Evraz Place in Regina June 19-21. Their booth is located in the Innovations Area of Arena 6, number 60121.

Producers could also contact Jim Wassermann at PAMI, 306-682-5033.

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## *Backgrounder*

- A post-harvest study by researcher Teketel Haile of the University of Saskatchewan states that canola farmers in Saskatchewan are leaving more than seven per cent of their crop in the field. Yield losses in the two-year study conducted on 66 commercial farms in Saskatchewan during 2010 and 2011 showed average harvest losses of 184 kilograms per hectare or 3.3 bushels per acre.
- If we save an average of one and a half bushels per acre on 11 million acres of canola, that would be 16.5 million bushels or 375,000 tonnes of canola.
- Saskatchewan grows over 12 million acres of wheat annually, producing 10-12 million tonnes. Reducing loss by one bushel per acre would boost output by 330,000 tonnes. Up to a half a million tonnes of that crop could be saved just by improving harvesting technology — combines, swathing and windrowing, and timing of harvest.
- Loss of crop yield due to weeds also runs between 10 and 25 per cent. An increase of just two per cent of total yield would result in an increase of another half a million tonnes of product.
- New technology could optimize the moisture content of grain going to market
- If drying equipment was designed to eliminate overdrying and prevent spoilage, it could increase Saskatchewan's total crop output by an extra half a million tonnes towards the province's goal.
- These reasonable goals added up amounted to 2.5 million tonnes.