

## The Drought Has Broken! But How Much is Too Much?

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FOR  
AGE  
MATTERS

The Peace region has been blessed with rain over the last few weeks. Levels recorded indicate that since June 1, the Grande Prairie-Spirit River area, Peace River-Manning-Fairview area and High Prairie-Valleyview area have received approximately 136 mm, 125 mm and 194 mm, respectively. This is a welcome change to the drying conditions that farmers were experiencing and this moisture has come to the rescue of many crops and pastures that were dry and becoming unproductive.

However, it seemed that when it rained it poured and in certain areas, the water accumulated in low-lying areas throughout cropland and pastures. As a result, this so much needed moisture could potentially be doing damage at the same time. Although some areas have not experienced overly wet conditions, it is important for producers to plan ahead with respect to their grazing rotations, in case more heavy rains come and soak already saturated soils.

### *Pugging*

The damaging effects that are being referred to is pasture pugging. If cattle are grazing on pastures and soils that are very wet and saturated for an extended period of time, their hooves can create massive divets in the ground that can be very hard to fix structurally and ultimately lead to a decrease in pasture productivity. This decrease can be due to soil compaction and the subsequent reduction in water infiltration rates and increased runoff from pastures. In order for grazing systems to be as economical as possible, it is important for the pasture to recover as quickly as possible after wet weather treading.



Research has shown that pugging can result in a 20%-40% loss in pasture utilization and a 20%-30% decline in pasture regrowth. In some cases, after initial damage, productivity can be reduced to as much as 80% for 8-12 months.

### *Assessing Damage*

The first step in determining whether action is required on the affected pasture, is to assess how much damage has actually occurred. At first glance the damage may seem quite severe, but often it looks worse than it actually is. Australian fodder and pasture specialist, Frank Mickan, of the Dairy Services Branch, Department of Primary Industries, Victoria, has put together a chart that helps producers objectively assess the pasture in question. The chart takes into account the percent of a given area that is damaged and the depth of that pugging damage. It is suggested to assess small, 1 ft x 1 ft, areas that can be deemed as representative of damage that is present. This assessment area can easily be quantified by using a quadrant of material and laying it over the area to be looked at. It is then necessary to determine what percentage of the pasture has pugging damage.

If pastures have light or very light damage, they likely will recover fully without any inputs other than extra rest in the spring. Moderately damaged pastures may be thickened up by harrowing to level and smooth the affected areas, broadcasting seed and packing. Areas that have experienced severe damage, in many cases, will likely require total renovation.

# EVENTS

## PCBFA Plot Tour

July 20 @ Fairview  
Forage species demo  
& Warm season annuals for grazing  
(780) 835-6799  
(780) 835-1112  
\*following canola school

## PARDA/SARDA Canola Diagnostic School

July 14  
St Isidore @ 12pm  
July 20  
Fairview @ 12pm  
July 21  
High Prairie @ 10am  
(780) 835-9158  
(780) 837-2900

## Pasture Walks

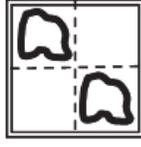
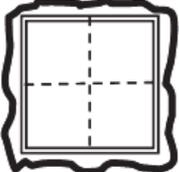
Speaker:  
July 27: 10am-3pm  
Eaglesham, TBA  
July 28: 10am-3pm  
Grazing Reserve @  
Three Creeks  
Morgan Hobin  
(780) 835-6799

## Environmental Farm Plan

If you are interested in completing your plan please call so we can set up workshop dates and locations.

Are you interested in receiving our newsletter electronically. Please send your email address to [jborduzak@gprc.ab.ca](mailto:jborduzak@gprc.ab.ca)

Table 1. Assessing pasture damage using an area x depth matrix.

Depth of Pugging	Percentage of Quadrat Damaged				
					
	0 – 25%	25 – 50%	50 – 75%	75 - <100	100%
0 – 1 in	Very Light	Very Light	Very Light	Light	Light
1 – 2 in	Very Light	Light	Moderate	Severe	Very Severe
3 – 4 in	Light	Moderate	Very Severe	Very Severe	Very Severe
> 4 in	Moderate	Severe	Very Severe	Very Severe	Very Severe

Adapted from Rob La Grange. 2009. Getting pastures back into shape. In the Tassie Dairy News, Issue 10, November 2009, TIAR Dairy Centre, Tasmania.

Source: Chris Teutsch, 2010

## Preventing Pugging

The best practice to use when trying to reduce the chance of pugging occurring on a pasture, is to keep cattle off of it and place them in another area that has less chance of damage. Or cattle may be kept in an area that may be requiring renovation or rejuvenation in the near future, so damage to this area is not worrisome. However, this is not always practical or achievable. Therefore, there are other options that can help to reduce the impact of cattle on pastures that are prone to pugging. One example is to keep the cattle rotating through pastures, as this will help minimize severe impact on any one particular pasture. Another strategy includes using an on:off grazing system, which involves grazing the cattle in that pasture for only 2-4 hours and then having them moved onto a sacrifice area. This sacrifice area may be the pasture that needs renovation or rejuvenation shortly. Decreasing the stocking rate of the pasture and spreading animals out will also help in decreasing pugging damage. If animals require supplemental feeding, try and feed out a couple days in advance, if practical, in order to keep machinery off wet soils. Lastly, if the pasture has a persistent pugging issue, it may be useful to look at whether there is the option to put a drainage system in place.

## Repairing Pastures

Pastures that have experienced pugging damage may possibly require different repairing strategies based on the severity of the damage. The strategies, based on the severity, that are generally utilized include rest and relaxation, subsoiling and surface tillage, overseeding damaged sod and/or reseeding damaged sod. However, it is important to objectively assess the pasture damage, by using the previous chart or another similar tool, before deciding on which method to use. It may also be that a local agronomist or extension officer can help to assess and recommend a strategy that will get the affected pasture in recovery mode and on the road to productivity.



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