



Pacific Seeds

Growing possibilities

HIGH MOISTURE CORN



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OVERVIEW

An information day on High Moisture Corn was conducted on 30 June 2016 with Whyalla Beef and Advanta Seeds at the Texas (Qld) based feedlot. The day was open to growers, agronomists and resellers with approximately 60 people in attendance from as far as Central New South Wales, Kingaroy, and the Darling Downs.

Three guest speakers were welcomed for the day and provided a wealth of information and knowledge into the feedlot, nutrition and crop selection.

- Gino DeStefani, Feedlot Manager (Whyalla Beef)
- Trevor Schoorl, Technical Service Manager (Lamelland Animal Nutrition)
- Trevor Philp, Summer Grains Agronomist (Advanta Seeds).

The field day began with information on the benefits of High Moisture Corn in the feedlot and continued with discussions on the process, nutritional quality, and benefits to growers, challenges and key selection criteria to consider when choosing a corn variety to sow. Following this was a guided tour of the silage pits where the processing of the high moisture corn was shown from tipping the truck, chopping to ideal size and placing in the silage pit.

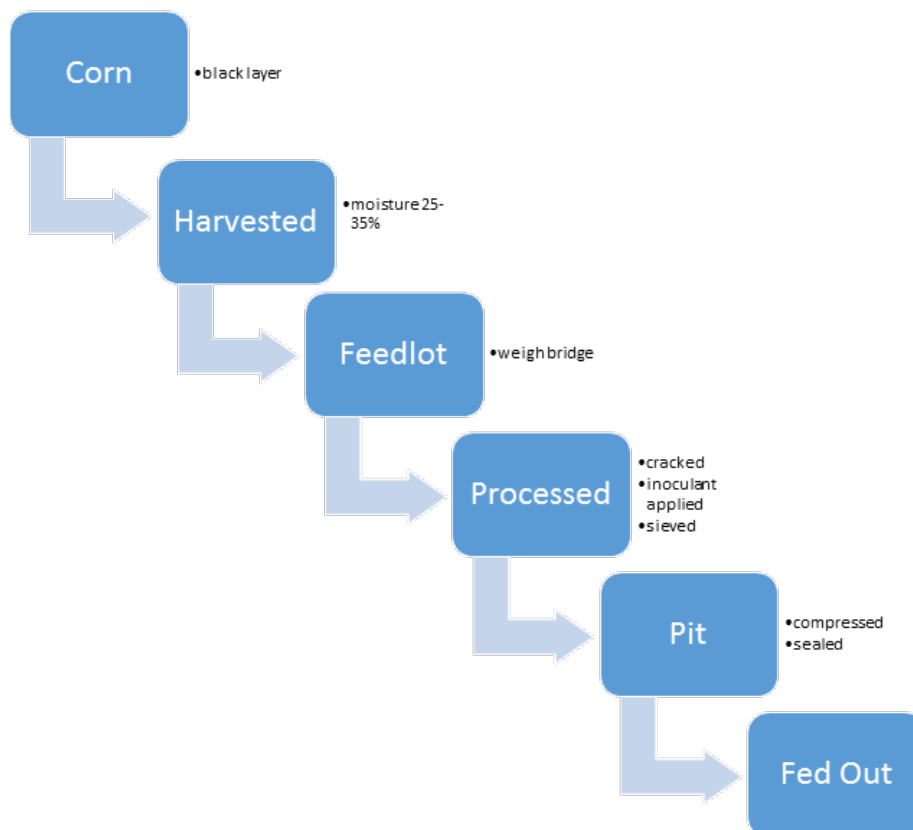
The brief information provided here should give you an understanding of high moisture corn and confidence in encouraging some of your growers to get on board this new corn market. Not only is there the benefit of having several markets for their corn crop such as feed, grain, silage, grits and now high moisture corn; but also the ability to save on water by getting a crop off the ground sooner, no need to wait for dry down and double cropping possibilities.

HIGH MOISTURE CORN

High moisture corn involves the process of harvesting corn from 25-35% moisture (after black layer) and ensiling it to create a highly nutritional feed for livestock.

The flow chart below shows the process of high moisture corn from the field to the feedlot.

Table 1: Process of high moisture corn



The processing of high moisture corn involves ensiling whereby an inoculant is applied to the corn before being compressed and sealed in a pit to create anaerobic conditions. It can take up to 21 days for a stable environment to be formed and a pH of 3.8 achieved. Once this stability is achieved beneficial bacteria are active in breaking down the corn starch to produce sugars and fermentation continues to create the nutritious silage.

Table 2: Benefits Vs Challenges of High Moisture Corn

Benefits of High Moisture Corn	Challenges of High Moisture Corn
Increase growers' choice of markets	Controlling fermentation – use inoculants
New rotations and herbicide programs	Increased risk of fungal contaminants, increase loss of spoilage
Up to 30 days quicker to harvest	Ferment faster in the rumen – may causes acidosis in ruminants
Decrease losses from field drying Economical way to preserve corn	Needs specific equipment and storage – can be harder on equipment
Higher grain volumes, milled & ready to feed	Narrow harvest window
Higher grain digestibility	Cartage costs
More concentrated energy than the whole crop	

VARIETY SELECTION

There is no specific hybrid for HMC; when choosing a corn variety to grow for the high moisture corn market the following points should be considered:

- High yielding
- Stress tolerance
- Suitability to other markets
- Herbicide technology – IT
- Choose a mix of maturities and varieties with slow dry down – to spread timing of harvest

Table 3: Corn quick selection guide

HYBRID	GRIT			SILAGE			FEED/HMC/EARLAGE		
	DRYLAND	COASTAL DRYLAND	IRRIGATED	DRYLAND	COASTAL DRYLAND	IRRIGATED	DRYLAND	COASTAL DRYLAND	IRRIGATED
PAC 301** SEA ONLY									
PAC 606IT									
PAC 624									
PAC 727IT									

CORN DRY DOWN RATE

The dry down rate for corn from black layer (35%) is on average 1.2% but can range between; 0.3 to 2.3 per day during summer and is influenced by several factors:

- Hybrid characteristics such as husk cover and grain size
- Nitrogen
- Weather, water, frost
- Leaf diseases

Table 5: Average dry down rates of Pacific Seeds Corn Hybrids

Hybrid	CRM	Average % dry down rate	Average days to 28%
PAC 727IT	123	0.5	14
PAC 624	117	1	7
PAC 606IT	114	1.2	5.8

Corn hybrids with slow dry down rates will help reduce the risk of missing the optimum harvest moisture, mixing planting dates and hybrid maturity will also help reduce the risk of the corn drying down too fast.

MANAGE RESISTANCE TO IMIDAZOLINONE HERBICIDES (GROUP B)

Growing imidazolinone tolerant (Clearfield) corn provides growers with the opportunity to manage a wide range of weeds including grass in crop. In addition to this, growers should also use a range of methods to ensure weeds do not build up resistance. This can be achieved through:

- Start with low pressure
- Only one application of IMI herbicide per cropping cycle
- Only use every second year if sowing corn on corn
- Continue to use pre-emergent herbicides such as Dual Gold™
- Monitor and manage escape weeds
- Rotate out of summer grass crops if high levels of escapes occur

GOLDEN RULES FOR HIGH MOISTURE CORN

1. Crop – moisture 25-35%
2. Harvest – move from farm to feedlot within 24hrs
3. Processing – particle size, inoculation
4. Storage – compaction, sealing, ensiling
5. Feed out rate – to minimise waste and losses from opening pit

FOR CURRENT INFORMATION ON PACIFIC SEEDS'
CORN HYBRIDS, CONTACT TOOWOOMBA HEAD OFFICE
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