

## How Well is your Roller Mill Performing ?

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Home Millers - is your roller up to standard ? Let us help measure the performance of your equipment.

It has long been known that crushing a grain will give better digestibility, as up to 30% of whole grains will pass out in manure.

Breaking grains into smaller particles through a roller mill is the most cost effective method of achieving this.

But is near enough good enough when it comes to the performance of your roller mill ?

Cereal grains contain between 45 and 80% starch, the major energy source in the grain. Adequate starch is not only critical for VFA production, but it is also required for microbial protein synthesis. Generally, wheat will have a higher starch content than barley; but levels within a grain can vary greatly. And while high in starch, hard wheats in particular require complete rolling, as they have a stronger protein layer protecting their starch stores. Much work has been carried out to look at how well a grain should be milled, to allow the rumen microbes access to the energy stored inside.

The surface of a cereal grain does not allow rumen bacteria to attach and colonise, with these bacteria preferring to attack a grain particle from the inside out. These microbes first begin digesting the starch pockets and continue on to the outer surface of the grain. This means: the greater the internal area of a cereal grain that is exposed, a much higher level of digestion (and performance) will be achieved. The amount of dry matter digestion doubles when a cereal grain is broken from 3mm to 1.5mm in size for dry rolled grains. While this level of digestion doubles again for particles under 0.75mm in size, this level of starch fermentation is too fast - leading to acidosis. Digestion in the rumen of grain particles under 2mm in size is much greater than that of particles larger than 2mm, even after 8 hours of digestion.

### HOME ROLLER MILL REIDS / LANGDONS ROLLER MILLS



**2mm cereal particles have 10% more dry matter digestibility and 17% greater protein digestion than 4mm size particles.**