

The language of nutrition

with

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uNDF and iNDF

What is iNDF or uNDF?

A: The fiber that is locked within lignin and never (ever) capable of being digested is now termed indigestible NDF (iNDF). We use undigested NDF (uNDF) at 120 or 240 hours of digestion to estimate iNDF.

Think of this measure as the “new lignin.” It is basically trash within forage and the TMR. It is similar to ash (dirt) in that it contains virtually no nutritional value and detracts from energy content within your herd’s diet.

How does uNDF affect dairy cows?

A: In day-to-day situations, too much uNDF can cause gut fill, limiting intakes and hurting performance. Too much uNDF can also lead cows to poor feed conversion efficiency if intake isn’t limiting.

To better understand practical impact, consider BMR mutant corn silage relative to conventional corn

silage. The BMR mutations negatively affect lignin growth and cause plants to grow with lesser uNDF levels compared with conventional silage.

What impact does it have on rations?

A: Your consultant should understand your uNDF levels when properly balancing the ration. For understanding fiber performance in forages and your dairy ration, two important considerations should be reviewed relative to uNDF:

1 The potentially digestible fiber content (defined as 100 - uNDF)

• This is analogous to how much wood is in a campfire pit to burn; there is either a little, some or a lot.

2 How fast we burn through that fiber (the NDF digestion rate [kd])

• This is akin to how dry the above-mentioned firewood is. Meaning specifically that it burns quickly and gives off substantial energy or it burns slowly and leaves those around it cold.

• The NDF kd is determined only on the non-uNDF fiber portion.

This is and can be confusing, but trust that knowing uNDF improves ration accuracy and performance.

What percentage of my forage or rations is uNDF?

A: Work with your consulting team to evaluate uNDF as a percent of your total ration dry matter – but also as a percent of each cow’s bodyweight (as directed by researchers at Miner Institute and Cornell University).

With individual farm-grown forages, consider the following

Table 1

Feed type	uNDF 240h, % of DM	
	Goal	Avg.
Alfalfa hay or haylage	< 13	18
Corn silage	< 7	9
Sorghum, sudan or small-grain hay or silage	< 9	14

guidelines based upon thousands of forage measurements from Rock River Laboratory’s database (see Table 1). **PD**

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