

# Management Opportunities to Resolve Before Starting an Amino Acid Program

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Milk protein prices continue to vary in 2017 with butter/milk fat commanding higher prices. In the future, consumers will come back to focus on milk protein, its quality, and source of animal protein. The following take home messages will be supported in the presentation.

- Evaluating current true milk protein content (opportunities to improve or find weak links—Table 1)
- Driving dry matter intake (increases microbial amino acid yield)
- Use of rumen modeling programs (estimate amino acid status)
- Selecting feed ingredients (improve RUP and amino acid profiles)
- Impact of milk urea nitrogen (effectiveness of capturing dietary nitrogen and efficiency)
- Genetic consideration (breeding for pounds of components)
- Factors lowering milk protein (environmental aspects and feed components)



**Table 1.** Milk fat percent and true protein percent profiles for Holstein and Jersey herds at various stages of lactation (days in milk) and various levels of milk yield in 2016. (Source: North Carolina DHI Processing Center)

<b>Holstein</b>									
Milk yield, lbs.	Lactation No.	Fat % by days in milk				True Protein % by days in milk			
		1 - 40	41 - 100	101 - 199	200 - 305	1 - 40	41 - 100	101 - 199	200 - 305
30,000	1	3.9	3.5	3.6	3.8	2.9	2.8	3.0	3.2
30,000	2	3.8	3.4	3.5	3.8	2.9	2.8	3.0	3.2
30,000	3+	4.0	3.4	3.5	3.7	2.9	2.8	3.0	3.2
26,000	1	3.8	3.5	3.6	3.9	2.8	2.8	3.1	3.2
26,000	2	3.7	3.4	3.6	3.8	2.8	2.8	3.0	3.2
26,000	3+	3.9	3.4	3.6	3.8	2.8	2.7	3.0	3.2
23,000	1	3.4	3.3	3.6	3.8	2.5	2.6	3.0	3.1
23,000	2	3.3	3.3	3.6	3.8	2.5	2.6	3.0	3.2
23,000	3+	3.7	3.4	3.6	3.8	2.7	2.7	3.0	3.2
19,000	1	2.9	3.0	3.5	3.7	2.2	2.4	2.8	3.0
19,000	2	2.9	3.1	3.5	3.7	2.3	2.5	2.9	3.1
19,000	3+	3.5	3.4	3.6	3.8	2.6	2.6	2.9	3.1
Number of Holstein herds used: 30,000 lb—292 herds, 27,000 lb—1022 herds; 23,000 lb—1998 herds, and 19,000 lb—1014 herds.									
<b>Jersey</b>									
Milk yield, lbs.	Lactation No.	Fat % by days in milk				True Protein % by days in milk			
		1 - 40	41 - 100	101 - 199	200 - 305	1 - 40	41 - 100	101 - 199	200 - 305
21,000	1	4.0	4.2	4.6	5.0	3.1	3.2	3.5	3.7
21,000	2	4.2	4.3	4.6	5.0	3.5	3.3	3.5	3.8
21,000	3+	4.3	4.4	4.6	4.9	3.4	3.3	3.5	3.8
19,000	1	4.1	4.3	4.8	5.2	3.1	3.2	3.6	3.8
19,000	2	4.0	4.3	4.8	5.1	3.1	3.2	3.6	3.9
19,000	3+	4.4	4.3	4.8	5.0	3.3	3.2	3.6	3.8
17,000	1	3.6	4.0	4.6	4.9	2.8	3.0	3.5	3.7
17,000	2	3.6	4.1	4.6	4.9	2.8	3.1	3.5	3.7
17,000	3+	4.3	4.4	4.8	5.0	3.3	3.3	3.6	3.8
15,000	1	3.1	3.7	4.3	4.8	2.4	2.8	3.3	3.6
15,000	2	3.3	3.7	4.3	4.6	2.6	2.8	3.3	3.5
15,000	3+	3.8	4.1	4.6	4.9	3.0	3.1	3.5	3.8
Number of Jersey herds used: 21,000 lb—17 herds, 19,000 lb—59 herds, 17,000 lb—92 herds, and 15,000 lb—121 herds.									

