Comparison of Buffer Response

The three primary buffers used in the dairy industry are:

- ***S-Carb®*** - Sodium Sesquicarbonate, 99.8% pure
- ***Sodium Bicarbonate***
- ***Ground Trona Ore***: Naturally occurring sodium sesquicarbonate, variable purity

The comparative response to these products when included to dairy rations has been evaluated by many researchers. Typically buffer response is compared to sodium bicarbonate, the industry standard. A brief summary from published studies with direct comparisons of S-Carb® and trona ores to sodium bicarbonate are shown in the following tables. These responses appear to be similar to industry data.

S-Carb® vs. Sodium Bicarbonate:

	Control	Sodium Bicarbonate	S-Carb®
Dry Matter Intake (lbs)	44.8	45.6	46.4
Milk Yield (lbs)	74.1	75.1	75.1
% Milk Fat	3.28	3.37	3.47
4% FCM (lbs)	60.7	62.8	64.8

Data from: Poos-Floyd (1984); Jordan & Aguilar (1983); Cassida (1986); Muller & Sweeney (1985).

Trona Ore vs. Sodium Bicarbonate:

	Control	Sodium Bicarbonate	Trona Ore
Dry Matter Intake (lbs)[a]	41.4	46.5	42.0
Milk Yield (lbs)	53.1	57.0	53.6
% Milk Fat	3.40	3.42	3.43
4% FCM (lbs)	45.6	49.3	46.2

[a]Only 2 studies reported DMI values.

Data from: Schneider (1986); Briceno (1986); Coppock (1986); Harris & Ventura (1985)

The decision of what buffer to include should be made on the basis of efficacy and economics. As shown in the above tables, the response to S-Carb® addition is excellent when compared to sodium bicarbonate. This response combined with the purity and handling characteristics of S-Carb® makes it the optimum buffer for the dairy industry.