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| Cow | Cow ID tag number. Cows in this dataset are Holstein (HO) only. |
| Farm | Which farm cow is from |
| System | Rumination system (CM = CowManager, SCR = SCR) |
| Parity | Number of lactations |
| ParityCategory | Categorical transformation of parity (1, 2, 3 or more lactations) |
| BCS | Body condition score from 3 observers. Some cows missing a score (not practical to score all cows on 700+ cow dairy) |
| DIM | Days in milk of current lactation |
| DIC | Days in calf, if pregnant |
| Pregnant | Pregnancy status (P = pregnant, N = not pregnant, U = unknown) |
| FatPEBV | EBV for fat %, calculated as sire PTA fat % + (½ x maternal grandsire PTA fat %). Some cows missing genetic info and have blank value. Some cows have zeroes – these are ‘true’ values (e.g. not errors or missing values) as the EBV can be positive or negative |
| AvgMilk | Average milk yield from the 7 days that rumination was recorded |
| Fat% | Fat % at 7th day DHIA test |
| FatY | Fat yield (AvgMilk x Fat%) |
| Pro% | Protein % at 7th day DHIA test |
| ProY | Protein yield (AvgMilk x Pro%) |
| SCCS | Somatic cell count from 7th day DHIA test |
| ECM | Energy corrected milk from 7th day DHIA test |
| 0.4 FCM | 0.4 fat corrected milk from 7th day DHIA test |
| DN | Total de novo FA (g/100g) |
| OBC | Total odd and branched chain FA (g/100g) |
| 16C | Total 16 carbon FA (g/100g) |
| 18C | Total 18 carbon FA (g/100g) |
| 18Cplus | Total >18 carbon FA (g/100g) |
| DNyield | Yield of de novo FA (g/d) |
| OBCyield | Yield of odd and branched chain FA (g/d) |
| 16Cyield | Yield of 16 carbon FA (g/d) |
| 18Cyield | Yield of 18 carbon FA (g/d) |
| 18Cplusyield | Yield of > 18 carbon FA (g/d) |
| AvgRum | Average daily minutes of rumination time. Rumination was recorded for 7 days and summed by day for each cow to obtain 7 observations per cow of daily rumination time. Each cow’s 7 values were averaged to obtain her average daily minutes of rumination time. |

Columns AD through CB are fatty acid variables from the FA profile of the DHIA test milk sample. FA are expressed as g/100g (% of total FA). Some cows have zero values for individual fatty acids – usually this is a chromatogram problem, e.g. the peak coeluted or was too small to be detected, or the value was a clear outlier and was deleted. I have been removing zero values for individual FA in all of my analyses, **except** for *trans*-10 *cis*-12 CLA (as cows do not have *trans*-10 *cis*-12 unless experiencing MFD).

Columns CC through DV are the same FA variables but are expressed as g/100g as a percent of corresponding biosynthetic origin (de novo, odd and branched chain, or preformed/>18C). E.g. 3% C4:0 / 25% total de novo = 0.12% C4/DN. The FA are expressed this way to help account for difference in diet between the farms, mainly in feeding fat supplements. Fat feeding typically increases production and percentage of 16C FA therefore decreasing percentage of all other FA.

(C13 – C11)/OBC (DW) = the difference between C13:0/OBC and C11:0/OBC.

(C14 – C12)/DN (DY) = the difference C14/DN and C12/DN.

Trans as % of preformed (DZ) = total *trans* FA (g/100g) divided by total preformed FA (g/100g).