**Daylight Saving Time Information**

|  |  |  |
| --- | --- | --- |
| Year | Begins | Ends |
| 2018 | Sunday, 11 March, 02:00 | Sunday, 4 November, 02:00 |
| 2019 | Sunday, 10 March, 02:00 | Sunday, 3 November, 02:00 |

**North American Time Zones**

|  |  |  |
| --- | --- | --- |
| Hours from [UTC/GMT](http://time-time.net/timer/gmt-greenwich-mean-time.php) | Standard Time | Daylight Saving Time |
| -10 | [Hawaii-Aleutian](http://time-time.net/times/time-zones/usa-canada/current-hawaii-time-hast.php) |  |
| -9 | [Alaska](http://time-time.net/times/time-zones/usa-canada/current-alaska-time-akst.php) | [Hawaii-Aleutian](http://time-time.net/times/time-zones/usa-canada/current-hawaii-time-hast.php) |
| -8 | [Pacific](http://time-time.net/times/time-zones/usa-canada/current-pacific-time-pst.php) | [Alaska](http://time-time.net/times/time-zones/usa-canada/current-alaska-time-akst.php) |
| -7 | [Mountain](http://time-time.net/times/time-zones/usa-canada/current-mountain-time-mst.php) | [Pacific](http://time-time.net/times/time-zones/usa-canada/current-pacific-time-pst.php) |
| -6 | [Central](http://time-time.net/times/time-zones/usa-canada/current-central-time-cst.php) | [Mountain](http://time-time.net/times/time-zones/usa-canada/current-mountain-time-mst.php) |
| -5 | [Eastern](http://time-time.net/times/time-zones/usa-canada/current-eastern-time-est.php) | [Central](http://time-time.net/times/time-zones/usa-canada/current-central-time-cst.php) |
| -4 | [Atlantic](http://time-time.net/times/time-zones/usa-canada/current-atlantic-time-ast.php) | [Eastern](http://time-time.net/times/time-zones/usa-canada/current-eastern-time-est.php) |
| -3:30 | [New Foundland](http://time-time.net/times/time-zones/usa-canada/current-newfoundland-time-nst.php) |  |
| -3 |  | [Atlantic](http://time-time.net/times/time-zones/usa-canada/current-atlantic-time-ast.php) |
| -2:30 |  | [New Foundland](http://time-time.net/times/time-zones/usa-canada/current-newfoundland-time-nst.php) |

**Dataset name:** Cow features and historical data

**Dataset file name:** 2-DC305 MERGE CONSOLIDATED\_V2\_05092019.xlsx

**Dataset electronic format:** .xlsx

**Number of files:** 1

**Data format:** one row per cow with data from before and after calving. The original date and time format mm/dd/yyyy.

**Brief description:** This dataset contains data obtained from DairyComp305 or from the official DHIA test. Data includes cow features (i.e., data that describes the cow), previous lactation performance and events, and features of the current calving.

**Raw data labels and description**

|  |  |  |
| --- | --- | --- |
| **Colum identification** | **Units** | **Description of column data** |
| ID | # | Cow ID |
| LACT | # | Lactation number |
| IDLACT | # | Combined number of id and lactation for matching and checking data integrity. |
| SHON | mm/dd/yyyy | Date Silent Herdsman collar on |
| SHOFF | mm/dd/yyyy | Date Silent Herdsman collar off |
| DIM | # | Days in milk on the day of data download |
| FDAT | date | Fresh (calving) date |
| BDAT | mm/dd/yyyy | Birth date |
| AFCDA | # | Age at first calving in days |
| MOSFH | mm/dd/yyyy | Month of freshening (calving) |
| NCALF | # | Number of calves born |
| DEADC | # | Number of Calf dead (1) or alive (0), one for each dead calf |
| CASEX | # | Number of Calf sex F=1 M=0, one for each female calf born |
| CADOA | # | Number of Dead or alive D=0 A=1, one for each alive calf born |
| RECAF | letters | Remark of calf in letter |
| DDAT | mm/dd/yyyy | Dry date |
| PL | # | Previous lactation number |
| PDIM | # | Previous lactation days in milk |
| PDDAT | mm/dd/yyyy | Previous lactation dry date |
| PFDAT | mm/dd/yyyy | Previous fresh date |
| PREFR | # | Total days in close-up pen |
| CU | mm/dd/yyyy | Date moved into close-up pen |
| DDRY | # | Days dry |
| CINT | # | Calving interval in days |
| PDCC | # | Gestation length |
| PTOTF | lbs | Previous lactation total butterfat production recorded |
| PTOTM | lbs | Previous lactation total milk production recorded |
| PTOTS | lbs | Previous lactation total protein production recorded |
| PDOPN | dd | Previous lactation days open (days not pregnant) |
| PTBRD | # | Previous lactation number of times inseminated |
| PLDZ\_ALL | 0/1 | Previous lactation health event, yes=1 no=0 |
| PL\_DZ\_N | # | Previous lactation number of health events |
| PLDZ\_30 | 0/1 | Previous lactation health events within 30 DIM, yes=1 no=0 |
| PL\_DZ30\_N | # | Previous lactation number of health events within 30 DIM |
| PLDZ\_31\_DRY | 0/1 | Previous lactation health events after 30 DIM, yes=1 no=0 |
| PL\_DZ31\_DRY\_N | # | Previous lactation number of health events after 30 DIM |
| PL\_UTD | 0/1 | Prev lact. uterine diseases (i.e., RP and MET), yes=1 no=0 |
| PL\_METDIG | 0/1 | Prev lact. metabolic or digestive disorders, yes=1 no=0 |
| PL\_MAST\_ALL | 0/1 | Previous lactation clinical mastitis event, yes=1 no=0 |
| PL\_MAST\_N\_ALL | # | Previous lactation number of clinical mastitis events |
| PL\_MAST\_30 | 0/1 | Previous lactation clinical mastitis events within 30 DIM, yes=1 no=0 |
| PL\_MAST\_31\_DRY | 0/1 | Previous lactation clinical mastitis events after 30 DIM, yes=1 no=0 |
| PL\_LAME\_ALL | 0/1 | Previous lactation lame events, yes=1 no=0 |
| PL\_LAME\_N\_ALL | # | Previous lactation number of lame events recorded |
| PL\_LAME30 | 0/1 | Previous lactation lame events within 30 DIM, yes=1 no=0 |
| PL\_LAME\_31\_400 | 0/1 | Previous lactation lame events after 30 DIM, yes=1 no=0 |
| PL\_OTHER\_ALL | 0/1 | Previous lactation health event, yes=1 no=0 |
| PL\_OTHER\_N\_ALL | # | Previous lactation number of health events |

**Dataset name:** SmaxTech bolus

**Dataset file name:** multiple (1 per cow) Example name: 10\_5c06ff99d757711458207e5b. Digits to the left of the lower dash represent the individual cow ID.

**Dataset electronic format:** CSV’s compressed in a .zip file

(5-03\_18\_2019\_17;43;04\_UTC\_365Days\_V1\_04222019)

**Number of files:** 902 (one excel file per cow)

**Data format:** Multiple rows per cow (total number varies by cow). 144 rows per day. Data before and after calving (FDAT).

**Brief description:** This dataset contains data from the Smaxtech reticulo-rumen bolus. Data available from this sensor includes reticulo-rumen temperature and physical activity. Data is recorded every 10 min.

**Raw data labels and description**

|  |  |  |
| --- | --- | --- |
| **Colum identification** | **Units** | **Description of column data** |
| Time | mm/dd/yyyy hh:mm | Date plus time of sensor reading |
| stomach\_temp\_celcius | °C | Raw reticulo-rumen temperature in degree Celsius (unadjusted by temperature drops due to water drinking) |
| animal\_activity | AU | Physical activity |
| low\_pass\_over\_activity | AU | "act\_index" = rolling average over 1 day over the activity |
| 60percentile\_of\_5day\_temp | °C | "temp\_normal\_index" = temperature 60 percentile for the last 5 days |
| temp\_without\_drink\_cycles | °C | Reticulo-rumen temperature in degree Celsius (“adjusted” by temp. drops due to water drinking) |