Exploration of subsets

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Counts.

```r
dim(d.pred.168)
```

```
## [1] 624 187
```

```r
length(unique(d.pred.168$pmid))
```

```
## [1] 624
```

```r
dim(d.pred.168.mm)
```

```
## [1] 520 187
```

```r
dim(d.pred.168.cp)
```

```
## [1] 576 187
```

```r
dim(d.pred2.168)
```

```
## [1] 449 187
```

Non-pH data.

```r
length(unique(c(pmid.cal2, pmid.cal2cs, pmid.cal4)))
```

```
## [1] 519
```

```r
table(d.pred.168$meas.tech2)
```

```
##
##   chamber     cps micro met      wt
##         2     102     520          0
```

```r
table(d.pred.168.mm$meas.tech2)
```

```
##
##   chamber     cps micro met      wt
##         0       0     520          0
```

```r
table(d.pred.168.cp$meas.tech2)
```

```
##
##   chamber     cps micro met      wt
##         2      54     520          0
```

```r
table(d.pred2.168$country, d.pred2.168$meas.tech2)
```

```
##
##       chamber cps micro met  wt
```

```
## CA          0    0        0    0
## CH          0    0       45    0
## DE          0    0        0    0
## DK          0    0       79    0
## FR          0    0        7    0
## IE          0    0       49    0
## IT          0    0        0    0
## NL          0    0      160    0
## NO          0    0        0    0
## SE          0    0        0    0
## UK          0    0      109    0
## US          0    0        0    0
```

```
table(d.pred3.168$country, d.pred3.168$meas.tech2)
```

```
##
##         chamber cps micro met wt
## CA          0    0        0    0
## CH          0    0        0    0
## DE          0    0        0    0
## DK          0   98       28    0
## FR          0    0        0    0
## IE          0    0        0    0
## IT          0    0        0    0
## NL          0    0        8    8
## NO          0    0        0    0
## SE          0    0        0    0
## UK          0    0        0    0
## US          0    0        0    0
```

```
table(d.pred.168$country, d.pred.168$meas.tech2)
```

```
##
##         chamber cps micro met   wt
## CA          0    0        0    0
## CH          0    0       45    0
## DE          0    0        0    0
## DK          2  102       91    0
## FR          0    0       13    0
## IE          0    0       49    0
## IT          0    0        0    0
## NL          0    0      213    0
## NO          0    0        0    0
## SE          0    0        0    0
## UK          0    0      109    0
## US          0    0        0    0
```

```
table(d.pred.168.mm$country, d.pred.168.mm$meas.tech2)
```

```
##
##         chamber cps micro met   wt
## CA          0    0        0    0
## CH          0    0       45    0
## DE          0    0        0    0
## DK          0    0       91    0
## FR          0    0       13    0
```

```
##   IE        0    0        49    0
##   IT        0    0         0    0
##   NL        0    0       213    0
##   NO        0    0         0    0
##   SE        0    0         0    0
##   UK        0    0       109    0
##   US        0    0         0    0
```

```r
table(d.pred.168.cp$country, d.pred.168.cp$meas.tech2)
```

```
##
##      chamber cps micro met  wt
##   CA       0   0       0   0
##   CH       0   0      45   0
##   DE       0   0       0   0
##   DK       2  54      91   0
##   FR       0   0      13   0
##   IE       0   0      49   0
##   IT       0   0       0   0
##   NL       0   0     213   0
##   NO       0   0       0   0
##   SE       0   0       0   0
##   UK       0   0     109   0
##   US       0   0       0   0
```

```r
table(d.pred2.168$inst)
```

```
##
## 104 106 202 204 205 207 208 210 212 214
##  28  82 109  17  34  45   7   3  49  75
```

```r
table(d.pred3.168$inst)
```

```
##
## 205 210 211
##  28  16  98
```

```r
table(d.pred3.168$institute)
```

```
##
##    AAFC    ADAS  ADAS-RR    ARDC      AT      AU     AUN  CAU-LU    CRPA    DIAS    IGER
##       0       0        0       0       0      28       0       0       0       0       0
##    INRA  IUL/FAT      JTI      MU  NMI-WUR     SDU  TEAGASC   USDA     WUR
##       0       0        0       0      16      98       0       0       0
```

```r
table(d.pred.168$inst)
```

```
##
## 104 106 202 204 205 207 208 210 211 212 214
##  28  86 109  17  46  45  13   8 104  49 119
```

```r
table(d.pred.168.mm$inst)
```

```
##
## 104 106 202 204 205 207 208 210 212 214
##  28  86 109  17  46  45  13   8  49 119
```

```r
table(d.pred.168.cp$inst)
```

```
## 
## 104 106 202 204 205 207 208 210 211 212 214 
##  28  86 109  17  46  45  13   8  56  49 119
```

```r
table(d.pred2.168$country)
```

```
## 
## CA CH DE DK FR IE IT NL NO SE UK US 
##  0 45  0 79  7 49  0 160  0  0 109  0
```

```r
table(d.pred3.168$country)
```

```
## 
## CA CH DE DK FR IE IT NL NO SE UK US 
##  0  0  0 126  0  0  0 16  0  0  0  0
```

```r
table(d.pred.168$country)
```

```
## 
## CA CH DE DK FR IE IT NL NO SE UK US 
##  0 45  0 195 13 49  0 213  0  0 109  0
```

```r
table(d.pred.168.mm$country)
```

```
## 
## CA CH DE DK FR IE IT NL NO SE UK US 
##  0 45  0 91 13 49  0 213  0  0 109  0
```

```r
table(d.pred.168.cp$country)
```

```
## 
## CA CH DE DK FR IE IT NL NO SE UK US 
##  0 45  0 147 13 49  0 213  0  0 109  0
```

```r
table(droplevels(d.pred2.168$exper))
```

```
## 
##                       1                     10                     11                     12 
##                      18                      1                      1                      1 
##                      13                     14                     15                     16 
##                       1                      1                      1                      1 
##                      17                     18                1989-15                1989-27 
##                       1                      1                      1                      1 
##                 1989-28                1990-12                1990-17                1990-18 
##                       2                      3                      2                      2 
##                 1990-20                1990-22                1990-23                1990-24 
##                       4                      2                      4                      2 
##                 1990-26                1990-27                1990-30                1990-31 
##                       2                      2                      1                      1 
##                 1990-35                1990-36                1991-15                1991-16 
##                       1                      2                      2                      2 
##                 1991-24                1991-30                1991-36                1992-11 
##                       3                      1                      1                      1 
##                 1992-12                1992-16                1992-17                1992-21 
##                       1                      3                      2                      1 
##                 1992-25                1992-26                1992-27                1992-28 
##                       1                      3                      4                      1 
##                 1992-35                1992-38                1993-10                1993-11
```

```
##                          1                       2                        2                        6
##                    1993-12                 1993-18                  1993-21                  1993-22
##                          2                       4                        3                        4
##                          2                       3                        4                        5
##                          6                      11                        6                       21
##                          6                       7                        8                        9
##                          3                       1                        1                        1
##                         A1                      A2                       A3                       A4
##                          3                       3                        3                        4
##                         A5                      A6 Cracking Clays 40 Acres  Cracking Clays Faringdon
##                          3                       3                       36                       27
##      Cracking Clays Rowden          DERVAL(44)_2011             ECLAIRE-2012                       F1
##                         46                       2                        1                        3
##                         F2                      F3                 G1997-24                 G1997-25
##                          2                       2                        3                        2
##                   G1997-26                G1997-28                 G1997-29                 G1997-30
##                          3                       2                        3                        2
##                   G1997-31                G1997-33                 G1998-28                 G1998-30
##                          3                       2                        3                        4
##                   G1998-32                G1999-19                 G1999-20                 G1999-22
##                          4                       5                        3                        2
##                   G1999-26                G1999-27                 G1999-30                 G1999-35
##                          2                       5                        5                        2
##                         G2                 G2000-11                 G2000-12                 G2000-19
##                          3                       2                        5                        2
##                    G2000-9                 G2002-23                 G2003-10                 G2003-11
##                          2                       2                        3                        4
##                         G3                  IHF_13                    IHF_6                    IHF_7
##                          3                       1                        1                        1
##                  Juni 2000                 Juni_99                  Kent_01                Kent_2_02
##                          5                       4                        5                        3
##            LACHAP(44)_2011                 LI_1994                       R1                    SyreN
##                          2                       2                        3                       22
##                        TS1                     TS2                Unter (a)                Unter (b)
##                          3                       1                        6                        6
##                         Z1                      Z2
##                          3                       3
```

```
table(droplevels(d.pred3.168$exper))
```

```
## 
##      B1      B2  IHF_13   IHF_6   IHF_7   SyreN      W1      W2 WIND_10  WIND_4  WIND_6  WIND_8
##      10       8       4       2       2      28      40      40       2       2       2       2
```

```
table(droplevels(d.pred.168$exper))
```

```
## 
##                          1                      10                       11                       12
##                         18                       1                        1                        1
##                         13                      14                       15                       16
##                          1                       1                        1                        1
##                         17                      18                  1989-15                  1989-27
##                          1                       1                        1                        2
##                    1989-28                 1990-12                  1990-17                  1990-18
##                          3                       3                        2                        2
```

```
##                 1990-20                  1990-22                  1990-23                  1990-24
##                       4                        2                        4                        3
##                 1990-26                  1990-27                  1990-30                  1990-31
##                       3                        2                        1                        1
##                 1990-35                  1990-36                  1991-15                  1991-16
##                       1                        2                        2                        2
##                 1991-24                  1991-30                  1991-36                  1992-11
##                       3                        1                        1                        1
##                 1992-12                  1992-16                  1992-17                  1992-21
##                       1                        3                        2                        1
##                 1992-25                  1992-26                  1992-27                  1992-28
##                       1                        3                        4                        1
##                 1992-35                  1992-38                  1993-10                  1993-11
##                       1                        2                        2                        6
##                 1993-12                  1993-18                  1993-21                  1993-22
##                       2                        4                        3                        4
##                       2                        3                        4                        5
##                       6                       11                        6                       21
##                       6                        7                        8                        9
##                       3                        1                        1                        1
##                      A1                       A2                       A3                       A4
##                       3                        3                        3                        4
##                      A5                       A6                       B1                 B1990-15
##                       3                        3                       16                        2
##                B1990-35                 B1990-37                 B1990-38                 B1991-13
##                       2                        3                        8                        2
##                B1991-37                 B1992-10                 B1992-14                 B1992-37
##                       4                        2                        4                        3
##                B1992-38                 B1992-39                 B1993-15                 B1998-39
##                       3                        3                        4                        2
##                B1998-40                       B2  Cracking Clays 40 Acres  Cracking Clays Faringdon
##                       2                        8                       36                       27
##   Cracking Clays Rowden          DERVAL(44)_2011             ECLAIRE-2012                       F1
##                      46                        4                        1                        3
##                      F2                       F3                  G1997-24                 G1997-25
##                       2                        2                        3                        2
##                G1997-26                 G1997-28                 G1997-29                 G1997-30
##                       3                        2                        3                        2
##                G1997-31                 G1997-33                 G1998-28                 G1998-30
##                       3                        2                        3                        4
##                G1998-32                 G1999-19                 G1999-20                 G1999-22
##                       4                        5                        3                        2
##                G1999-26                 G1999-27                 G1999-30                 G1999-35
##                       2                        5                        5                        2
##                      G2                 G2000-11                 G2000-12                 G2000-19
##                       3                        2                        5                        2
##                 G2000-9                 G2002-23                 G2003-10                 G2003-11
##                       2                        2                        3                        4
##                      G3                   IHF_13                    IHF_6                    IHF_7
##                       3                        4                        2                        2
##               Juni 2000                  Juni_99                  Kent_01                Kent_2_02
##                       5                        4                        5                        3
##         LACHAP(44)_2011                  LI_1994                       R1                    SyreN
##                       4                        4                        3                       34
```

```
##                       TS1                 TS2            Unter (a)            Unter (b)
##                         3                   1                    6                    6
##                        W1                  W2                   Z1                   Z2
##                        40                  40                    3                    3
```

```r
table(droplevels(d.pred.168.mm$exper))
```

```
## 
##                         1                  10                   11                   12
##                        18                   1                    1                    1
##                        13                  14                   15                   16
##                         1                   1                    1                    1
##                        17                  18              1989-15              1989-27
##                         1                   1                    1                    2
##                   1989-28             1990-12              1990-17              1990-18
##                         3                   3                    2                    2
##                   1990-20             1990-22              1990-23              1990-24
##                         4                   2                    4                    3
##                   1990-26             1990-27              1990-30              1990-31
##                         3                   2                    1                    1
##                   1990-35             1990-36              1991-15              1991-16
##                         1                   2                    2                    2
##                   1991-24             1991-30              1991-36              1992-11
##                         3                   1                    1                    1
##                   1992-12             1992-16              1992-17              1992-21
##                         1                   3                    2                    1
##                   1992-25             1992-26              1992-27              1992-28
##                         1                   3                    4                    1
##                   1992-35             1992-38              1993-10              1993-11
##                         1                   2                    2                    6
##                   1993-12             1993-18              1993-21              1993-22
##                         2                   4                    3                    4
##                         2                   3                    4                    5
##                         6                  11                    6                   21
##                         6                   7                    8                    9
##                         3                   1                    1                    1
##                        A1                  A2                   A3                   A4
##                         3                   3                    3                    4
##                        A5                  A6              B1990-15              B1990-35
##                         3                   3                    2                    2
##                  B1990-37            B1990-38             B1991-13             B1991-37
##                         3                   8                    2                    4
##                  B1992-10            B1992-14             B1992-37             B1992-38
##                         2                   4                    3                    3
##                  B1992-39            B1993-15             B1998-39             B1998-40
##                         3                   4                    2                    2
## Cracking Clays 40 Acres  Cracking Clays Faringdon  Cracking Clays Rowden       DERVAL(44)_2011
##                        36                  27                   46                    4
##               ECLAIRE-2012                 F1                   F2                   F3
##                         1                   3                    2                    2
##                   G1997-24            G1997-25             G1997-26             G1997-28
##                         3                   2                    3                    2
##                   G1997-29            G1997-30             G1997-31             G1997-33
##                         3                   2                    3                    2
##                   G1998-28            G1998-30             G1998-32             G1999-19
```

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```
##                    3                    4                    4                    5
##             G1999-20             G1999-22             G1999-26             G1999-27
##                    3                    2                    2                    5
##             G1999-30             G1999-35                   G2             G2000-11
##                    5                    2                    3                    2
##             G2000-12             G2000-19              G2000-9             G2002-23
##                    5                    2                    2                    2
##             G2003-10             G2003-11                   G3               IHF_13
##                    3                    4                    3                    4
##                IHF_6                IHF_7            Juni 2000              Juni_99
##                    2                    2                    5                    4
##              Kent_01            Kent_2_02       LACHAP(44)_2011              LI_1994
##                    5                    3                    4                    4
##                   R1                SyreN                  TS1                  TS2
##                    3                   34                    3                    1
##            Unter (a)            Unter (b)                   Z1                   Z2
##                    6                    6                    3                    3
```

```r
table(droplevels(d.pred.168.cp$exper))
```

```
##
##                    1                   10                   11                   12
##                   18                    1                    1                    1
##                   13                   14                   15                   16
##                    1                    1                    1                    1
##                   17                   18              1989-15              1989-27
##                    1                    1                    1                    2
##              1989-28              1990-12              1990-17              1990-18
##                    3                    3                    2                    2
##              1990-20              1990-22              1990-23              1990-24
##                    4                    2                    4                    3
##              1990-26              1990-27              1990-30              1990-31
##                    3                    2                    1                    1
##              1990-35              1990-36              1991-15              1991-16
##                    1                    2                    2                    2
##              1991-24              1991-30              1991-36              1992-11
##                    3                    1                    1                    1
##              1992-12              1992-16              1992-17              1992-21
##                    1                    3                    2                    1
##              1992-25              1992-26              1992-27              1992-28
##                    1                    3                    4                    1
##              1992-35              1992-38              1993-10              1993-11
##                    1                    2                    2                    6
##              1993-12              1993-18              1993-21              1993-22
##                    2                    4                    3                    4
##                    2                    3                    4                    5
##                    6                   11                    6                   21
##                    6                    7                    8                    9
##                    3                    1                    1                    1
##                   A1                   A2                   A3                   A4
##                    3                    3                    3                    4
##                   A5                   A6                   B1              B1990-15
##                    3                    3                   16                    2
##             B1990-35             B1990-37             B1990-38             B1991-13
##                    2                    3                    8                    2
```

```
##             B1991-37                B1992-10                B1992-14                B1992-37
##                    4                       2                       4                       3
##             B1992-38                B1992-39                B1993-15                B1998-39
##                    3                       3                       4                       2
##             B1998-40                      B2 Cracking Clays 40 Acres  Cracking Clays Faringdon
##                    2                       8                      36                      27
## Cracking Clays Rowden         DERVAL(44)_2011            ECLAIRE-2012                      F1
##                   46                       4                       1                       3
##                   F2                      F3                G1997-24                G1997-25
##                    2                       2                       3                       2
##             G1997-26                G1997-28                G1997-29                G1997-30
##                    3                       2                       3                       2
##             G1997-31                G1997-33                G1998-28                G1998-30
##                    3                       2                       3                       4
##             G1998-32                G1999-19                G1999-20                G1999-22
##                    4                       5                       3                       2
##             G1999-26                G1999-27                G1999-30                G1999-35
##                    2                       5                       5                       2
##                   G2                G2000-11                G2000-12                G2000-19
##                    3                       2                       5                       2
##              G2000-9                G2002-23                G2003-10                G2003-11
##                    2                       2                       3                       4
##                   G3                  IHF_13                   IHF_6                   IHF_7
##                    3                       4                       2                       2
##            Juni 2000                 Juni_99                 Kent_01               Kent_2_02
##                    5                       4                       5                       3
##       LACHAP(44)_2011                 LI_1994                      R1                   SyreN
##                    4                       4                       3                      34
##                  TS1                     TS2               Unter (a)               Unter (b)
##                    3                       1                       6                       6
##                   W1                      W2                      Z1                      Z2
##                   16                      16                       3                       3
```