# Model call record

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Calculates emission factors

Check package version.

```
packageVersion('ALFAM2')
```

```
## [1] '0.5.1'
```

Parameter values.

```
ALFAM2pars02
```

```
##            int.f0    app.mthd.os.f0    app.rate.ni.f0         man.dm.f0 man.source.pig.f0    app.mthd.cs.f0
##       -0.60568338       -1.74351499       -0.01114900        0.39967070       -0.59202858       -7.63373787
##            int.r1    app.mthd.bc.r1         man.dm.r1       air.temp.r1        wind.2m.r1    app.mthd.ts.r1
##       -0.93921516        0.79352480       -0.13988189        0.07354268        0.15026720       -0.45907135
## ts.cereal.hght.r1         man.ph.r1            int.r2      rain.rate.r2            int.r3    app.mthd.bc.r3
##       -0.24471238        0.66500000       -1.79918546        0.39402156       -3.22841225        0.56153956
##    app.mthd.cs.r3         man.ph.r3 incorp.shallow.f4 incorp.shallow.r3    incorp.deep.f4    incorp.deep.r3
##       -0.66647417        0.23800000       -0.96496655       -0.58052689       -3.69494954       -1.26569562
```

```
dat
```

```
##    app.timing.dk app.timing air.temp wind.2m rain.rate             app.mthd  incorp t.incorp app.rate.ni
## 1          Marts      March    4.900 4.02500      0.09         Trailing hose    None       NA          30
## 2          April      April    8.500 3.91000      0.09         Trailing hose    None       NA          30
## 3            Maj        May   12.400 3.56500      0.09         Trailing hose    None       NA          30
## 4         Sommer     Summer   16.867 3.18167      0.09         Trailing hose    None       NA          30
## 5        Efterår     Autumn   14.600 3.45000      0.09         Trailing hose    None       NA          30
## 6          Marts      March    4.900 4.02500      0.09         Trailing hose Shallow        4          30
## 7          April      April    8.500 3.91000      0.09         Trailing hose Shallow        4          30
```

```
## 8          Maj       May  12.400 3.56500      0.09        Trailing hose Shallow       4          30
## 9       Sommer    Summer  16.867 3.18167      0.09        Trailing hose Shallow       4          30
## 10     Efterår    Autumn  14.600 3.45000      0.09        Trailing hose Shallow       4          30
## 11       Marts     March   4.900 4.02500      0.09        Trailing hose    Deep       4          30
## 12       April     April   8.500 3.91000      0.09        Trailing hose    Deep       4          30
## 13         Maj       May  12.400 3.56500      0.09        Trailing hose    Deep       4          30
## 14      Sommer    Summer  16.867 3.18167      0.09        Trailing hose    Deep       4          30
## 15     Efterår    Autumn  14.600 3.45000      0.09        Trailing hose    Deep       4          30
## 16       Marts     March   4.900 4.02500      0.09  Open slot injection    None      NA           0
## 17       April     April   8.500 3.91000      0.09  Open slot injection    None      NA           0
## 18         Maj       May  12.400 3.56500      0.09  Open slot injection    None      NA           0
## 19      Sommer    Summer  16.867 3.18167      0.09  Open slot injection    None      NA           0
## 20     Efterår    Autumn  14.600 3.45000      0.09  Open slot injection    None      NA           0
## 21       Marts     March   4.900 4.02500      0.09 Closed slot injection    None      NA           0
## 22       April     April   8.500 3.91000      0.09 Closed slot injection    None      NA           0
## 23         Maj       May  12.400 3.56500      0.09 Closed slot injection    None      NA           0
## 24      Sommer    Summer  16.867 3.18167      0.09 Closed slot injection    None      NA           0
## 25     Efterår    Autumn  14.600 3.45000      0.09 Closed slot injection    None      NA           0
## 26       Marts     March   4.900 4.02500      0.09        Trailing hose    None      NA          30
## 27       April     April   8.500 3.91000      0.09        Trailing hose    None      NA          30
## 28         Maj       May  12.400 3.56500      0.09        Trailing hose    None      NA          30
## 29      Sommer    Summer  16.867 3.18167      0.09        Trailing hose    None      NA          30
## 30     Efterår    Autumn  14.600 3.45000      0.09        Trailing hose    None      NA          30
## 31       Marts     March   4.900 4.02500      0.09        Trailing hose Shallow       4          30
## 32       April     April   8.500 3.91000      0.09        Trailing hose Shallow       4          30
## 33         Maj       May  12.400 3.56500      0.09        Trailing hose Shallow       4          30
## 34      Sommer    Summer  16.867 3.18167      0.09        Trailing hose Shallow       4          30
## 35     Efterår    Autumn  14.600 3.45000      0.09        Trailing hose Shallow       4          30
## 36       Marts     March   4.900 4.02500      0.09        Trailing hose    Deep       4          30
## 37       April     April   8.500 3.91000      0.09        Trailing hose    Deep       4          30
## 38         Maj       May  12.400 3.56500      0.09        Trailing hose    Deep       4          30
## 39      Sommer    Summer  16.867 3.18167      0.09        Trailing hose    Deep       4          30
## 40     Efterår    Autumn  14.600 3.45000      0.09        Trailing hose    Deep       4          30
## 41       Marts     March   4.900 4.02500      0.09  Open slot injection    None      NA           0
## 42       April     April   8.500 3.91000      0.09  Open slot injection    None      NA           0
## 43         Maj       May  12.400 3.56500      0.09  Open slot injection    None      NA           0
## 44      Sommer    Summer  16.867 3.18167      0.09  Open slot injection    None      NA           0
## 45     Efterår    Autumn  14.600 3.45000      0.09  Open slot injection    None      NA           0
## 46       Marts     March   4.900 4.02500      0.09 Closed slot injection    None      NA           0
```

```
## 47        April      April    8.500 3.91000      0.09 Closed slot injection    None       NA          0
## 48          Maj        May   12.400 3.56500      0.09 Closed slot injection    None       NA          0
## 49       Sommer     Summer   16.867 3.18167      0.09 Closed slot injection    None       NA          0
## 50      Efterår     Autumn   14.600 3.45000      0.09 Closed slot injection    None       NA          0
## 51        Marts      March    4.900 4.02500      0.09         Trailing hose    None       NA         30
## 52        April      April    8.500 3.91000      0.09         Trailing hose    None       NA         30
## 53          Maj        May   12.400 3.56500      0.09         Trailing hose    None       NA         30
## 54       Sommer     Summer   16.867 3.18167      0.09         Trailing hose    None       NA         30
## 55      Efterår     Autumn   14.600 3.45000      0.09         Trailing hose    None       NA         30
## 56        Marts      March    4.900 4.02500      0.09         Trailing hose Shallow        4         30
## 57        April      April    8.500 3.91000      0.09         Trailing hose Shallow        4         30
## 58          Maj        May   12.400 3.56500      0.09         Trailing hose Shallow        4         30
## 59       Sommer     Summer   16.867 3.18167      0.09         Trailing hose Shallow        4         30
## 60      Efterår     Autumn   14.600 3.45000      0.09         Trailing hose Shallow        4         30
## 61        Marts      March    4.900 4.02500      0.09         Trailing hose    Deep        4         30
## 62        April      April    8.500 3.91000      0.09         Trailing hose    Deep        4         30
## 63          Maj        May   12.400 3.56500      0.09         Trailing hose    Deep        4         30
## 64       Sommer     Summer   16.867 3.18167      0.09         Trailing hose    Deep        4         30
## 65      Efterår     Autumn   14.600 3.45000      0.09         Trailing hose    Deep        4         30
## 66        Marts      March    4.900 4.02500      0.09   Open slot injection    None       NA          0
## 67        April      April    8.500 3.91000      0.09   Open slot injection    None       NA          0
## 68          Maj        May   12.400 3.56500      0.09   Open slot injection    None       NA          0
## 69       Sommer     Summer   16.867 3.18167      0.09   Open slot injection    None       NA          0
## 70      Efterår     Autumn   14.600 3.45000      0.09   Open slot injection    None       NA          0
## 71        Marts      March    4.900 4.02500      0.09 Closed slot injection    None       NA          0
## 72        April      April    8.500 3.91000      0.09 Closed slot injection    None       NA          0
## 73          Maj        May   12.400 3.56500      0.09 Closed slot injection    None       NA          0
## 74       Sommer     Summer   16.867 3.18167      0.09 Closed slot injection    None       NA          0
## 75      Efterår     Autumn   14.600 3.45000      0.09 Closed slot injection    None       NA          0
## 76        Marts      March    4.900 4.02500      0.09         Trailing hose    None       NA         30
## 77        April      April    8.500 3.91000      0.09         Trailing hose    None       NA         30
## 78          Maj        May   12.400 3.56500      0.09         Trailing hose    None       NA         30
## 79       Sommer     Summer   16.867 3.18167      0.09         Trailing hose    None       NA         30
## 80      Efterår     Autumn   14.600 3.45000      0.09         Trailing hose    None       NA         30
## 81        Marts      March    4.900 4.02500      0.09         Trailing hose    None       NA         30
## 82        April      April    8.500 3.91000      0.09         Trailing hose    None       NA         30
## 83          Maj        May   12.400 3.56500      0.09         Trailing hose    None       NA         30
## 84       Sommer     Summer   16.867 3.18167      0.09         Trailing hose    None       NA         30
## 85      Efterår     Autumn   14.600 3.45000      0.09         Trailing hose    None       NA         30
```

```
## 86        Marts      March    4.900 4.02500      0.09         Trailing hose    None       NA          30
## 87        April      April    8.500 3.91000      0.09         Trailing hose    None       NA          30
## 88          Maj        May   12.400 3.56500      0.09         Trailing hose    None       NA          30
## 89       Sommer     Summer   16.867 3.18167      0.09         Trailing hose    None       NA          30
## 90      Efterår     Autumn   14.600 3.45000      0.09         Trailing hose    None       NA          30
##           man.name man.source  acid man.dm man.ph man.source.pig app.mthd.os app.mthd.cs incorp.deep incorp.shallow
## 1        Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE       FALSE          FALSE
## 2        Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE       FALSE          FALSE
## 3        Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE       FALSE          FALSE
## 4        Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE       FALSE          FALSE
## 5        Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE       FALSE          FALSE
## 6        Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE       FALSE           TRUE
## 7        Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE       FALSE           TRUE
## 8        Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE       FALSE           TRUE
## 9        Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE       FALSE           TRUE
## 10       Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE       FALSE           TRUE
## 11       Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE        TRUE          FALSE
## 12       Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE        TRUE          FALSE
## 13       Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE        TRUE          FALSE
## 14       Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE        TRUE          FALSE
## 15       Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE       FALSE        TRUE          FALSE
## 16       Svinegylle        Pig FALSE    3.9   7.20           TRUE        TRUE       FALSE       FALSE          FALSE
## 17       Svinegylle        Pig FALSE    3.9   7.20           TRUE        TRUE       FALSE       FALSE          FALSE
## 18       Svinegylle        Pig FALSE    3.9   7.20           TRUE        TRUE       FALSE       FALSE          FALSE
## 19       Svinegylle        Pig FALSE    3.9   7.20           TRUE        TRUE       FALSE       FALSE          FALSE
## 20       Svinegylle        Pig FALSE    3.9   7.20           TRUE        TRUE       FALSE       FALSE          FALSE
## 21       Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE        TRUE       FALSE          FALSE
## 22       Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE        TRUE       FALSE          FALSE
## 23       Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE        TRUE       FALSE          FALSE
## 24       Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE        TRUE       FALSE          FALSE
## 25       Svinegylle        Pig FALSE    3.9   7.20           TRUE       FALSE        TRUE       FALSE          FALSE
## 26        Kvæggylle     Cattle FALSE    6.5   7.00          FALSE       FALSE       FALSE       FALSE          FALSE
## 27        Kvæggylle     Cattle FALSE    6.5   7.00          FALSE       FALSE       FALSE       FALSE          FALSE
## 28        Kvæggylle     Cattle FALSE    6.5   7.00          FALSE       FALSE       FALSE       FALSE          FALSE
## 29        Kvæggylle     Cattle FALSE    6.5   7.00          FALSE       FALSE       FALSE       FALSE          FALSE
## 30        Kvæggylle     Cattle FALSE    6.5   7.00          FALSE       FALSE       FALSE       FALSE          FALSE
## 31        Kvæggylle     Cattle FALSE    6.5   7.00          FALSE       FALSE       FALSE       FALSE           TRUE
## 32        Kvæggylle     Cattle FALSE    6.5   7.00          FALSE       FALSE       FALSE       FALSE           TRUE
## 33        Kvæggylle     Cattle FALSE    6.5   7.00          FALSE       FALSE       FALSE       FALSE           TRUE
```

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## 34          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE       FALSE       FALSE          TRUE
## 35          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE       FALSE       FALSE          TRUE
## 36          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE       FALSE        TRUE         FALSE
## 37          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE       FALSE        TRUE         FALSE
## 38          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE       FALSE        TRUE         FALSE
## 39          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE       FALSE        TRUE         FALSE
## 40          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE       FALSE        TRUE         FALSE
## 41          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE        TRUE       FALSE       FALSE         FALSE
## 42          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE        TRUE       FALSE       FALSE         FALSE
## 43          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE        TRUE       FALSE       FALSE         FALSE
## 44          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE        TRUE       FALSE       FALSE         FALSE
## 45          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE        TRUE       FALSE       FALSE         FALSE
## 46          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE        TRUE       FALSE         FALSE
## 47          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE        TRUE       FALSE         FALSE
## 48          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE        TRUE       FALSE         FALSE
## 49          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE        TRUE       FALSE         FALSE
## 50          Kvæggylle     Cattle FALSE    6.5   7.00         FALSE       FALSE        TRUE       FALSE         FALSE
## 51 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE       FALSE         FALSE
## 52 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE       FALSE         FALSE
## 53 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE       FALSE         FALSE
## 54 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE       FALSE         FALSE
## 55 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE       FALSE         FALSE
## 56 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE       FALSE          TRUE
## 57 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE       FALSE          TRUE
## 58 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE       FALSE          TRUE
## 59 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE       FALSE          TRUE
## 60 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE       FALSE          TRUE
## 61 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE        TRUE         FALSE
## 62 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE        TRUE         FALSE
## 63 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE        TRUE         FALSE
## 64 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE        TRUE         FALSE
## 65 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE       FALSE        TRUE         FALSE
## 66 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE        TRUE       FALSE       FALSE         FALSE
## 67 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE        TRUE       FALSE       FALSE         FALSE
## 68 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE        TRUE       FALSE       FALSE         FALSE
## 69 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE        TRUE       FALSE       FALSE         FALSE
## 70 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE        TRUE       FALSE       FALSE         FALSE
## 71 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE        TRUE       FALSE         FALSE
## 72 Afgasset biomasse  Digestate FALSE    5.1   7.90         FALSE       FALSE        TRUE       FALSE         FALSE
```

```
## 73 Afgasset biomasse  Digestate FALSE    5.1   7.90          FALSE       FALSE        TRUE       FALSE          FALSE
## 74 Afgasset biomasse  Digestate FALSE    5.1   7.90          FALSE       FALSE        TRUE       FALSE          FALSE
## 75 Afgasset biomasse  Digestate FALSE    5.1   7.90          FALSE       FALSE        TRUE       FALSE          FALSE
## 76        Svinegylle        Pig  TRUE    3.9   6.47           TRUE       FALSE       FALSE       FALSE          FALSE
## 77        Svinegylle        Pig  TRUE    3.9   6.47           TRUE       FALSE       FALSE       FALSE          FALSE
## 78        Svinegylle        Pig  TRUE    3.9   6.47           TRUE       FALSE       FALSE       FALSE          FALSE
## 79        Svinegylle        Pig  TRUE    3.9   6.47           TRUE       FALSE       FALSE       FALSE          FALSE
## 80        Svinegylle        Pig  TRUE    3.9   6.47           TRUE       FALSE       FALSE       FALSE          FALSE
## 81         Kvæggylle     Cattle  TRUE    6.5   6.47          FALSE       FALSE       FALSE       FALSE          FALSE
## 82         Kvæggylle     Cattle  TRUE    6.5   6.47          FALSE       FALSE       FALSE       FALSE          FALSE
## 83         Kvæggylle     Cattle  TRUE    6.5   6.47          FALSE       FALSE       FALSE       FALSE          FALSE
## 84         Kvæggylle     Cattle  TRUE    6.5   6.47          FALSE       FALSE       FALSE       FALSE          FALSE
## 85         Kvæggylle     Cattle  TRUE    6.5   6.47          FALSE       FALSE       FALSE       FALSE          FALSE
## 86 Afgasset biomasse  Digestate  TRUE    5.1   6.52          FALSE       FALSE       FALSE       FALSE          FALSE
## 87 Afgasset biomasse  Digestate  TRUE    5.1   6.52          FALSE       FALSE       FALSE       FALSE          FALSE
## 88 Afgasset biomasse  Digestate  TRUE    5.1   6.52          FALSE       FALSE       FALSE       FALSE          FALSE
## 89 Afgasset biomasse  Digestate  TRUE    5.1   6.52          FALSE       FALSE       FALSE       FALSE          FALSE
## 90 Afgasset biomasse  Digestate  TRUE    5.1   6.52          FALSE       FALSE       FALSE       FALSE          FALSE
##     ct tan.app id
## 1  168     100  1
## 2  168     100  2
## 3  168     100  3
## 4  168     100  4
## 5  168     100  5
## 6  168     100  6
## 7  168     100  7
## 8  168     100  8
## 9  168     100  9
## 10 168     100 10
## 11 168     100 11
## 12 168     100 12
## 13 168     100 13
## 14 168     100 14
## 15 168     100 15
## 16 168     100 16
## 17 168     100 17
## 18 168     100 18
## 19 168     100 19
## 20 168     100 20
```

```
## 21 168     100 21
## 22 168     100 22
## 23 168     100 23
## 24 168     100 24
## 25 168     100 25
## 26 168     100 26
## 27 168     100 27
## 28 168     100 28
## 29 168     100 29
## 30 168     100 30
## 31 168     100 31
## 32 168     100 32
## 33 168     100 33
## 34 168     100 34
## 35 168     100 35
## 36 168     100 36
## 37 168     100 37
## 38 168     100 38
## 39 168     100 39
## 40 168     100 40
## 41 168     100 41
## 42 168     100 42
## 43 168     100 43
## 44 168     100 44
## 45 168     100 45
## 46 168     100 46
## 47 168     100 47
## 48 168     100 48
## 49 168     100 49
## 50 168     100 50
## 51 168     100 51
## 52 168     100 52
## 53 168     100 53
## 54 168     100 54
## 55 168     100 55
## 56 168     100 56
## 57 168     100 57
## 58 168     100 58
## 59 168     100 59
```

```
## 60 168     100 60
## 61 168     100 61
## 62 168     100 62
## 63 168     100 63
## 64 168     100 64
## 65 168     100 65
## 66 168     100 66
## 67 168     100 67
## 68 168     100 68
## 69 168     100 69
## 70 168     100 70
## 71 168     100 71
## 72 168     100 72
## 73 168     100 73
## 74 168     100 74
## 75 168     100 75
## 76 168     100 76
## 77 168     100 77
## 78 168     100 78
## 79 168     100 79
## 80 168     100 80
## 81 168     100 81
## 82 168     100 82
## 83 168     100 83
## 84 168     100 84
## 85 168     100 85
## 86 168     100 86
## 87 168     100 87
## 88 168     100 88
## 89 168     100 89
## 90 168     100 90
```

Run model

With set 2 parameters

```
preds <- ALFAM2mod(dat, pars = ALFAM2pars02, app.name = 'tan.app', time.name = 'ct', time.incorp = 't.incorp', group = 'id', warn = TRUE)
```

```
## User-supplied parameters are being used.
## Incorporation applied (for group 10).
```

```
## Incorporation applied (for group 11).
## Incorporation applied (for group 12).
## Incorporation applied (for group 13).
## Incorporation applied (for group 14).
## Incorporation applied (for group 15).
## Incorporation applied (for group 31).
## Incorporation applied (for group 32).
## Incorporation applied (for group 33).
## Incorporation applied (for group 34).
## Incorporation applied (for group 35).
## Incorporation applied (for group 36).
## Incorporation applied (for group 37).
## Incorporation applied (for group 38).
## Incorporation applied (for group 39).
## Incorporation applied (for group 40).
## Incorporation applied (for group 56).
## Incorporation applied (for group 57).
## Incorporation applied (for group 58).
## Incorporation applied (for group 59).
## Incorporation applied (for group 6).
## Incorporation applied (for group 60).
## Incorporation applied (for group 61).
## Incorporation applied (for group 62).
## Incorporation applied (for group 63).
## Incorporation applied (for group 64).
## Incorporation applied (for group 65).
```

```
## Incorporation applied (for group 7).

## Incorporation applied (for group 8).

## Incorporation applied (for group 9).

## Warning in ALFAM2mod(dat, pars = ALFAM2pars02, app.name = "tan.app", time.name = "ct", : Running with 20 parameters. Dropped 4 with no
## These secondary parameters have been dropped:
##   app.mthd.bc.r1
##   app.mthd.ts.r1
##   ts.cereal.hght.r1
##   app.mthd.bc.r3
##
## These secondary parameters are being used:
##   int.f0
##   app.mthd.os.f0
##   app.rate.ni.f0
##   man.dm.f0
##   man.source.pig.f0
##   app.mthd.cs.f0
##   int.r1
##   man.dm.r1
##   air.temp.r1
##   wind.2m.r1
##   man.ph.r1
##   int.r2
##   rain.rate.r2
##   int.r3
##   app.mthd.cs.r3
##   man.ph.r3
##   incorp.shallow.f4
##   incorp.shallow.r3
##   incorp.deep.f4
##   incorp.deep.r3
```

Check reference condition.

```
ALFAM2mod(ref, pars = ALFAM2pars01, app.name = 'tan.app', time.name = 'ct', time.incorp = 't.incorp', warn = TRUE)
```

```
## User-supplied parameters are being used.

## Warning in ALFAM2mod(ref, pars = ALFAM2pars01, app.name = "tan.app", time.name = "ct", : No matching column for
```

```
## incorporation parameter(s): incorp.deep, incorp.shallow. Skipping incorporation.
```

```
## Warning in ALFAM2mod(ref, pars = ALFAM2pars01, app.name = "tan.app", time.name = "ct", : Running with 15 parameters. Dropped 5 with no
## These secondary parameters have been dropped:
##   app.rate.f0
##   incorp.deep.f4
##   incorp.shallow.f4
##   incorp.deep.r3
##   rain.cum.r3
##
## These secondary parameters are being used:
##   int.f0
##   int.r1
##   int.r2
##   int.r3
##   app.mthd.os.f0
##   man.dm.f0
##   app.mthd.bc.r1
##   man.dm.r1
##   air.temp.r1
##   wind.2m.r1
##   man.ph.r1
##   air.temp.r3
##   app.mthd.os.r3
##   man.ph.r3
##   rain.rate.r2
```

```
##    ct  dt        f0         r1        r2          r3 f4          f        s         j        e    e.int        er
## 1 168 168 0.3237724 0.06628499 0.1110777 0.001255181  1 3.7119e-12 71.30525 0.1708021 28.69475 28.69475 0.2869475
```

```
ALFAM2mod(ref, pars = ALFAM2pars02, app.name = 'tan.app', time.name = 'ct', time.incorp = 't.incorp', warn = TRUE)
```

```
## User-supplied parameters are being used.
```

```
## Warning in ALFAM2mod(ref, pars = ALFAM2pars02, app.name = "tan.app", time.name = "ct", : No matching column for
## incorporation parameter(s): incorp.shallow, incorp.deep. Skipping incorporation.
```

```
## Warning in ALFAM2mod(ref, pars = ALFAM2pars02, app.name = "tan.app", time.name = "ct", : Running with 20 parameters. Dropped 4 with no
## These secondary parameters have been dropped:
##   incorp.shallow.f4
##   incorp.shallow.r3
##   incorp.deep.f4
```

```
##   incorp.deep.r3
##
## These secondary parameters are being used:
##   int.f0
##   app.mthd.os.f0
##   app.rate.ni.f0
##   man.dm.f0
##   man.source.pig.f0
##   app.mthd.cs.f0
##   int.r1
##   app.mthd.bc.r1
##   man.dm.r1
##   air.temp.r1
##   wind.2m.r1
##   app.mthd.ts.r1
##   ts.cereal.hght.r1
##   man.ph.r1
##   int.r2
##   rain.rate.r2
##   int.r3
##   app.mthd.bc.r3
##   app.mthd.cs.r3
##   man.ph.r3
```

```
##    ct  dt        f0       r1         r2           r3 f4            f        s         j        e    e.int        er
## 1 168 168 0.2589096 0.115023 0.01587869 0.0005910004  1 7.283926e-09 69.96107 0.1788032 30.03893 30.03893 0.3003893
```

Add results to main df

```
dat$EF <- signif(preds$er, 2)
dat$EFp <- 100 * signif(preds$er, 2)
```