

# Model call record

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July 2020

Calculates emission factors

Check package version.

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

```
## [1] '0.4.1'
```

Parameter values.

```
pars
```

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

Run model

With set 2 parameters

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

```
## User-supplied parameters are being used.
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## Incorporation applied (for group 382-2010).  
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## Incorporation applied (for group 383-1990).

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## Incorporation applied (for group 383-2000).
## Incorporation applied (for group 383-2010).
## Warning in ALFAM2mod(dat, pars = pars, app.name = "tan.app", time.name = "ct", : Running with 22 parameters. Dropped 2 with no match.
## These secondary parameters have been dropped:
##   app.mthd.ts.r1
##   ts.cereal.hght.r1
##
## 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
##   man.ph.r1
##   int.r2
##   rain.rate.r2
##   int.r3
##   app.mthd.bc.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 = pars, app.name = 'tan.app', time.name = 'ct', time.incorp = 't.incorp', warn = TRUE)

## User-supplied parameters are being used.

## Warning in ALFAM2mod(ref, pars = pars, 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 = pars, app.name = "tan.app", time.name = "ct", : Running with 20 parameters. Dropped 4 with no match.
## 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
## 1 168 168 0.2589096 0.115023 0.01587869 0.0005910004 1 7.283926e-09 69.96107
##      j      e      e.int      er
## 1 0.1788032 30.03893 30.03893 0.3003893
```

With default values

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

```
## Default parameters (version 1) are being used.
```

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## Incorporation applied (for group 009-1980).
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## Incorporation applied (for group 009-1990).  
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## Incorporation applied (for group 009-2010).  
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```
## Incorporation applied (for group 383-2010).
## Warning in ALFAM2mod(dat, app.name = "tan.app", time.name = "ct", time.incorp = "t.incorp", : Running with 19 parameters. Dropped 1 wit
## These secondary parameters have been dropped:
##   rain.cum.r3
##
## These secondary parameters are being used:
##   int.f0
##   int.r1
##   int.r2
##   int.r3
##   app.mthd.os.f0
##   app.rate.f0
##   man.dm.f0
##   incorp.deep.f4
##   incorp.shallow.f4
##   app.mthd.bc.r1
##   man.dm.r1
##   air.temp.r1
##   wind.2m.r1
##   man.ph.r1
##   air.temp.r3
##   incorp.deep.r3
##   app.mthd.os.r3
##   man.ph.r3
##   rain.rate.r2
```

Add results to main df

```
dat$emis <- signif(preds$e, 2)
dat$EF <- signif(preds$er, 2)

dat$emis.def <- signif(preds.def$e, 2)
dat$EF.def <- signif(preds.def$er, 2)
```