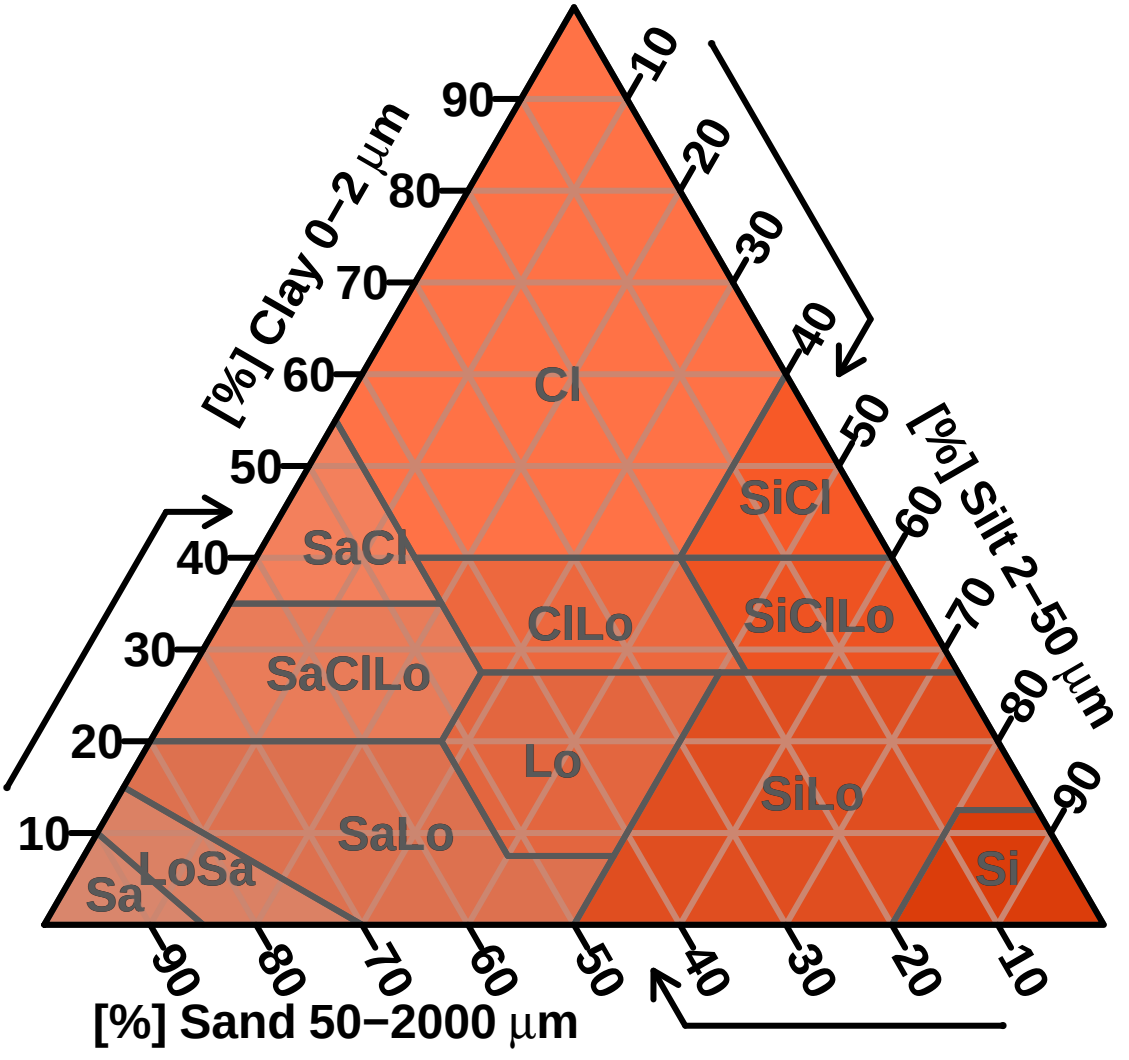
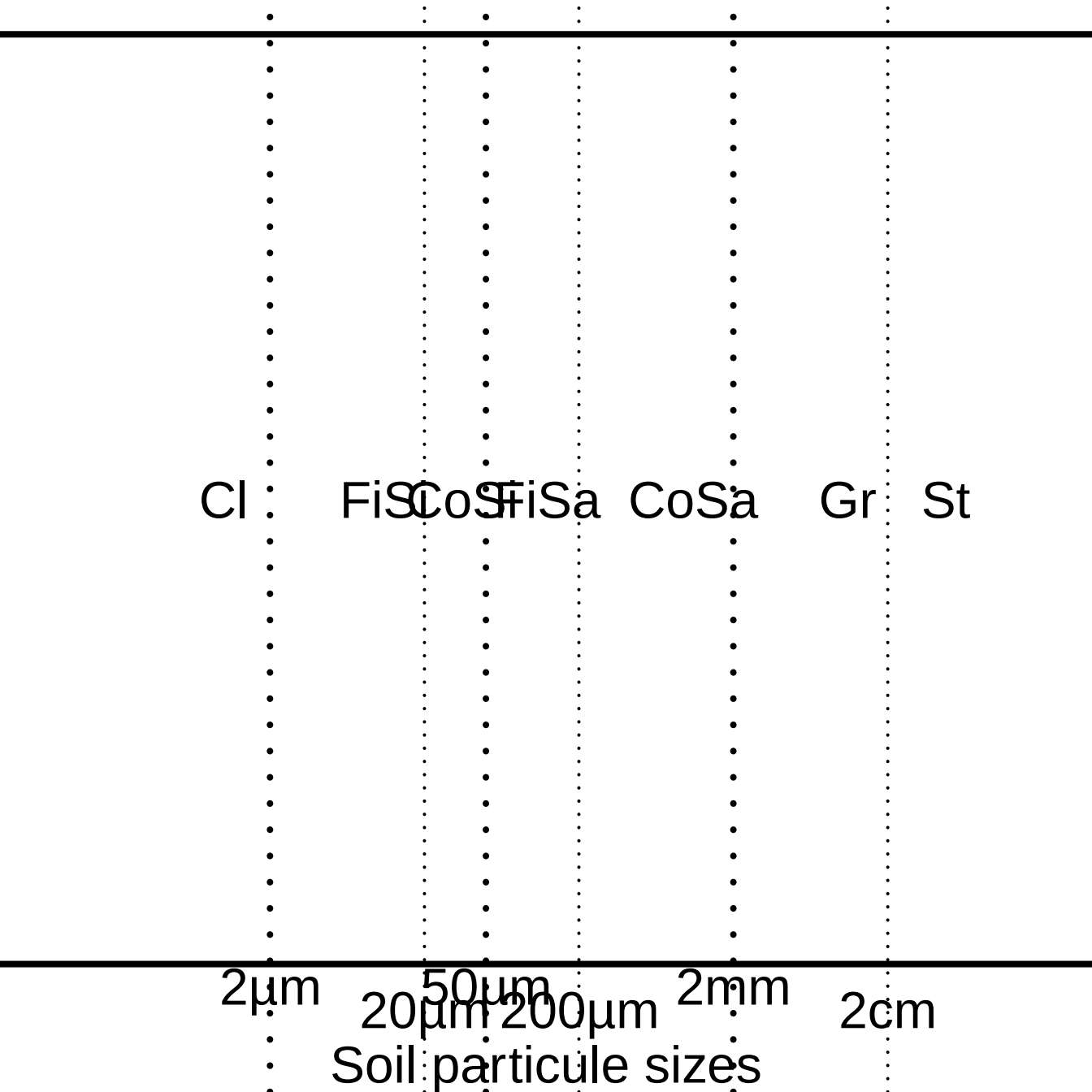
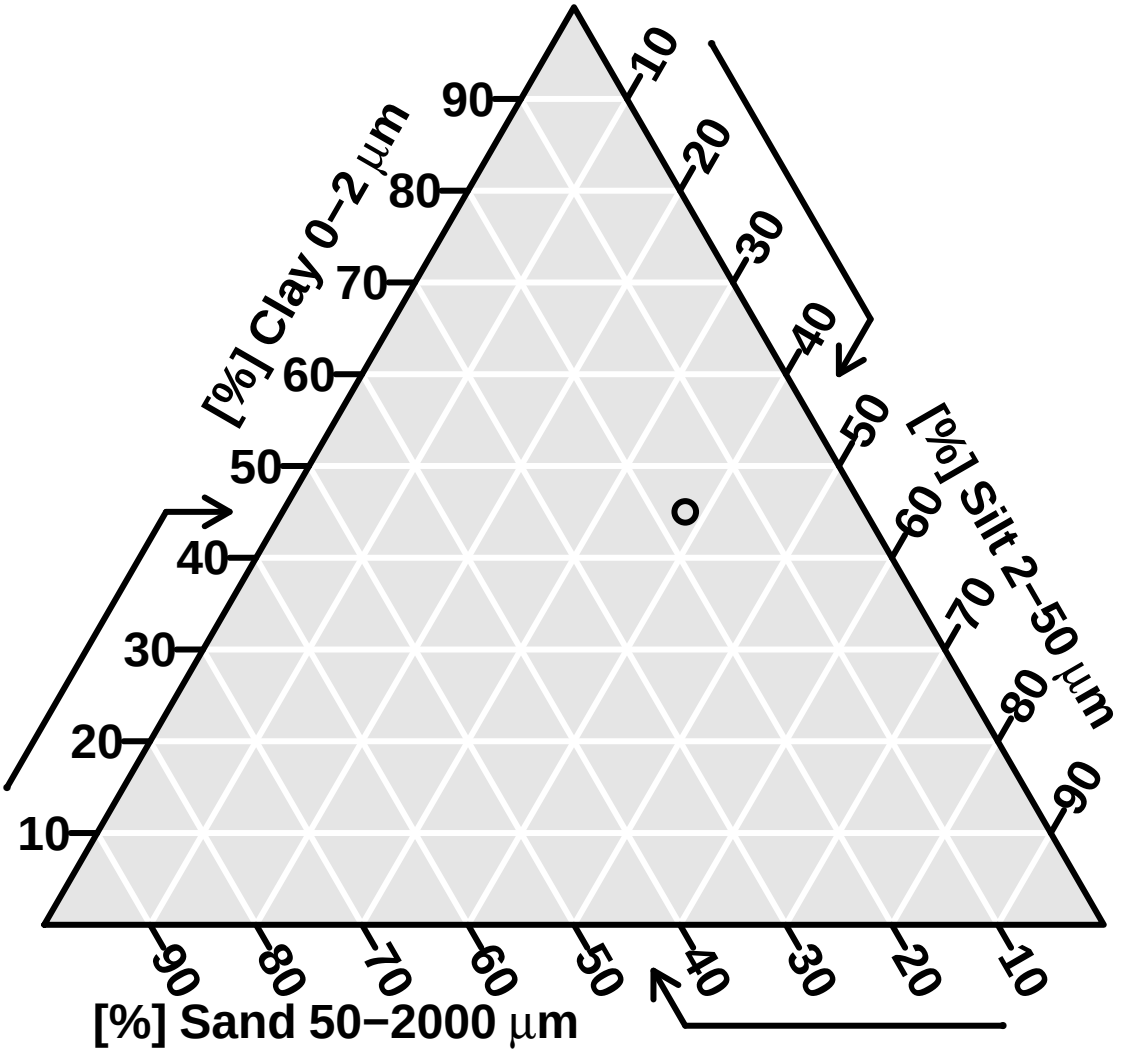
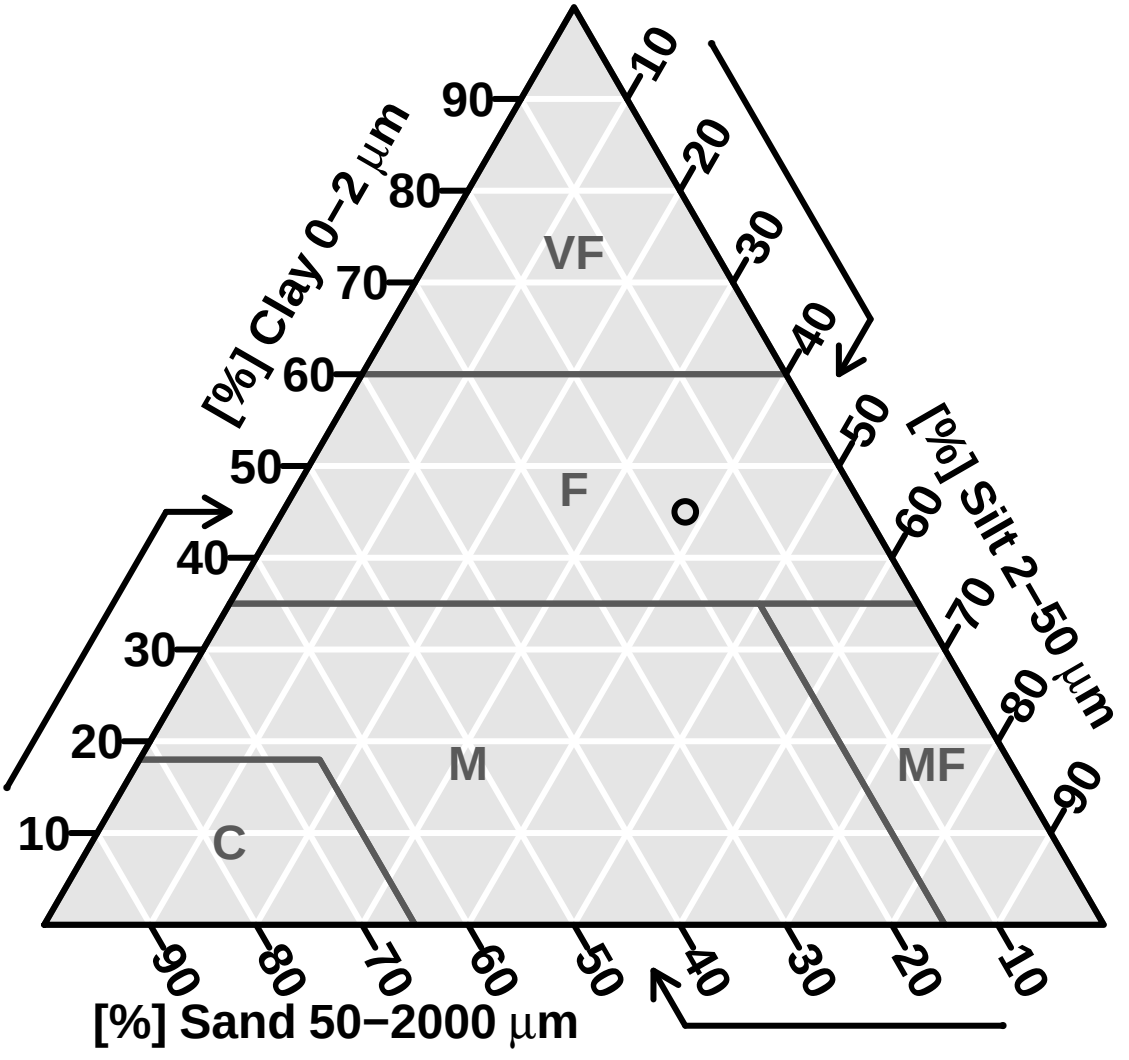
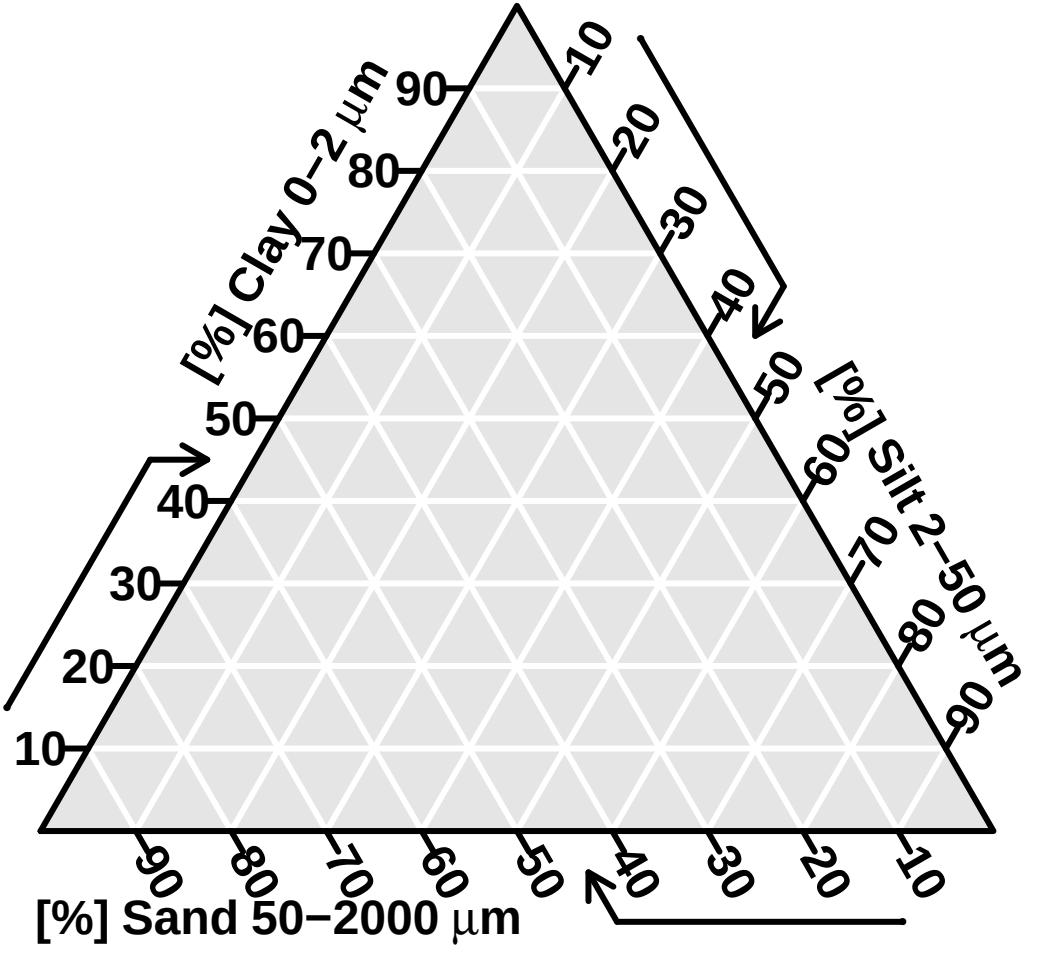

[%] Clay 0–2 µm
[%] Silt 2–50 µm
[%] Sand 50–2000 µm
Cl
SiCl
SaCl
ClLo
SiClLo
SaClLo
Lo
SiLo
SaLo
Si
LoSa
Sa


Cl
Fi
Co
Fi
Co
Sa
Gr
St
2µm
20µm
50µm
200µm
2mm
2cm
Soil particule sizes

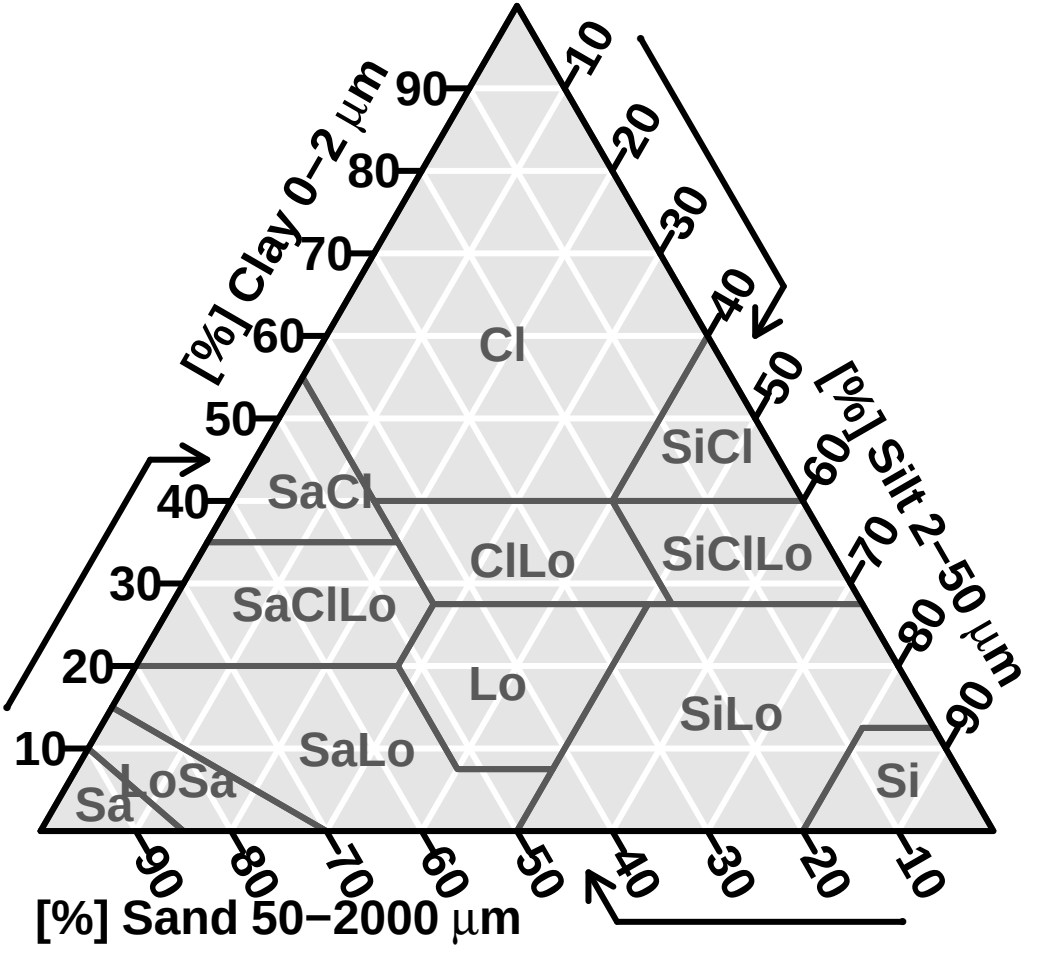

[%] Clay 0–2 μm
90
80
70
60
50
40
30
20
10
[%] Silt 2–50 μm
10
20
30
40
50
60
70
80
90
[%] Sand 50–2000 μm
90
80
70
60
50
40
30
20
10


VF
F
M
MF
C
[%] Clay 0–2 μm
[%] Silt 2–50 μm
[%] Sand 50–2000 μm
90
80
70
60
50
40
30
20
10

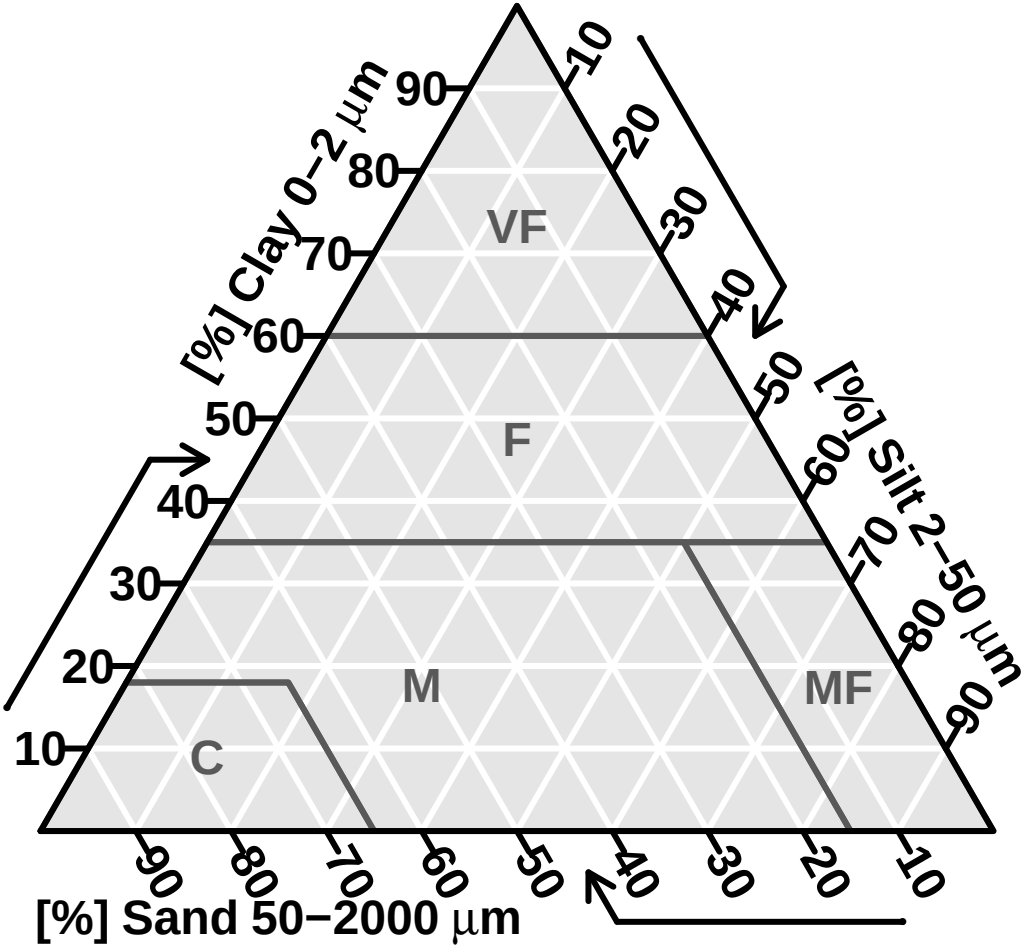
# Texture triangle



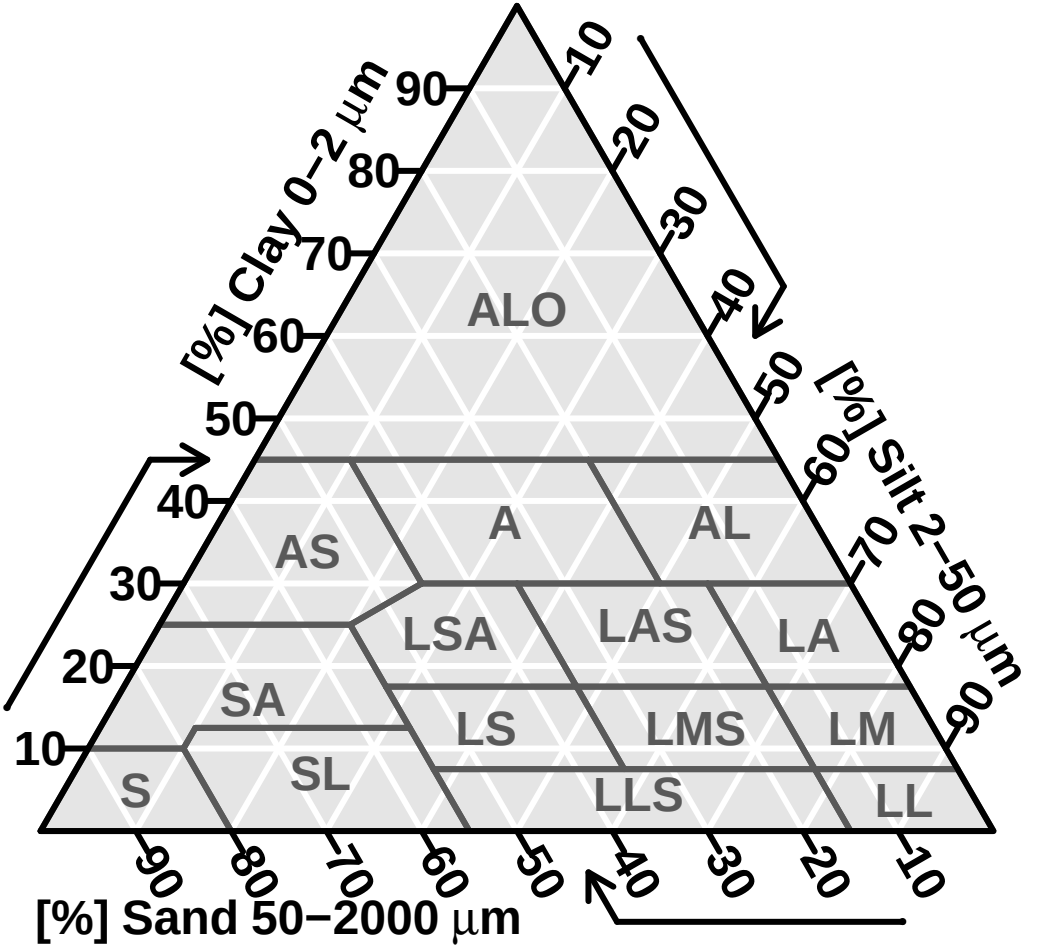
# Texture triangle: USDA



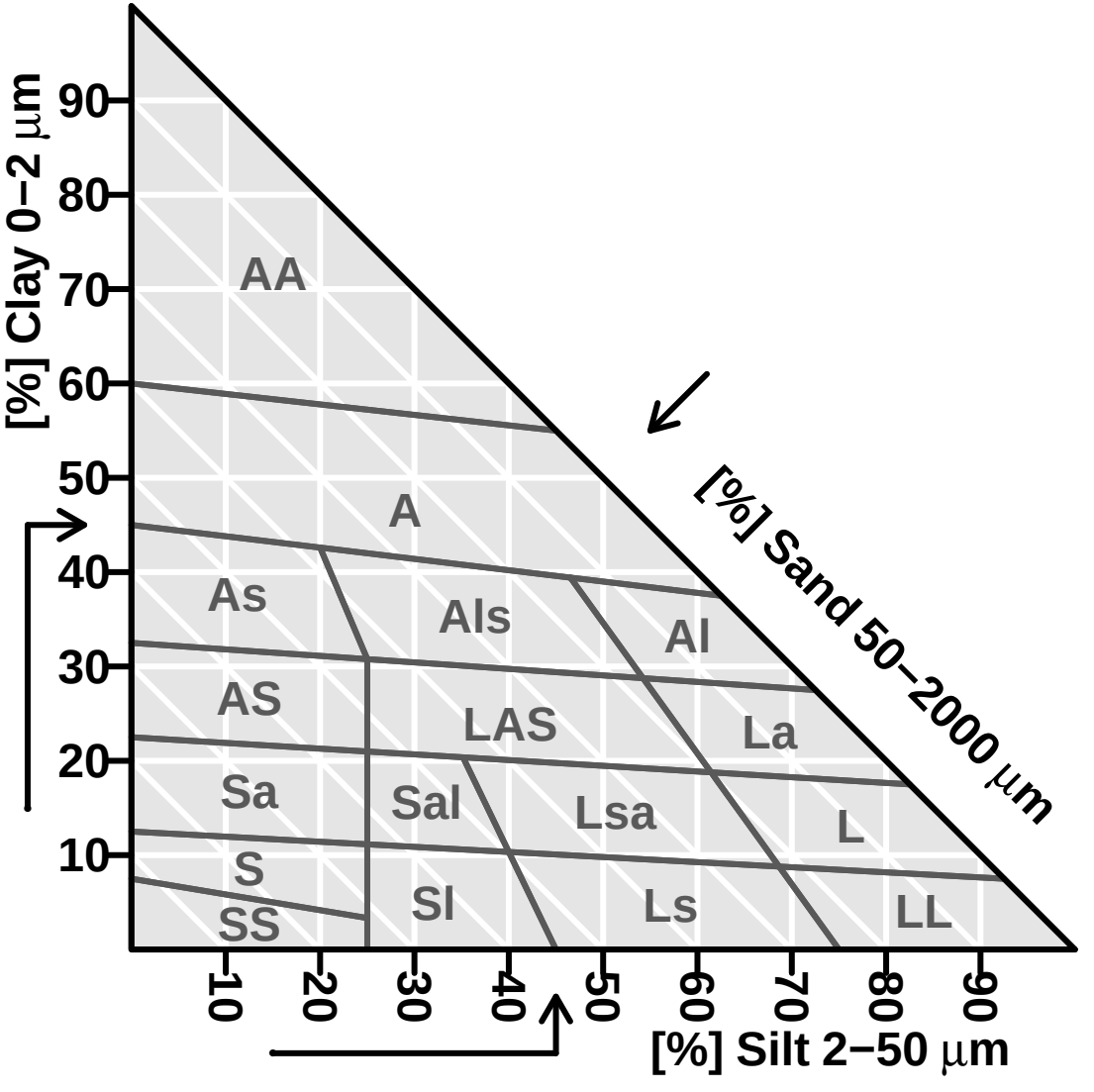
# Texture triangle: FAO/HYPRES



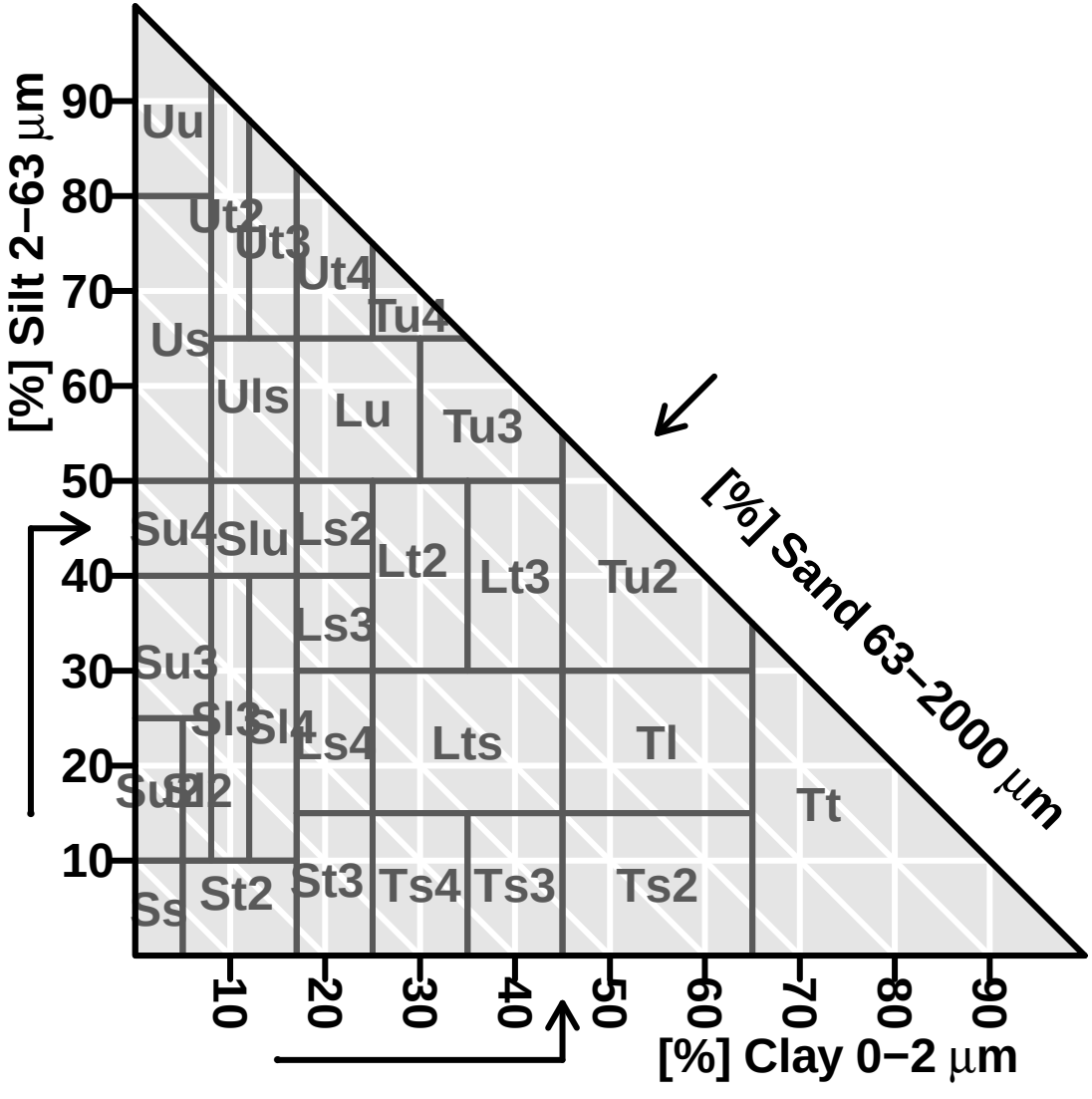
# Texture triangle: Aisne (FR)



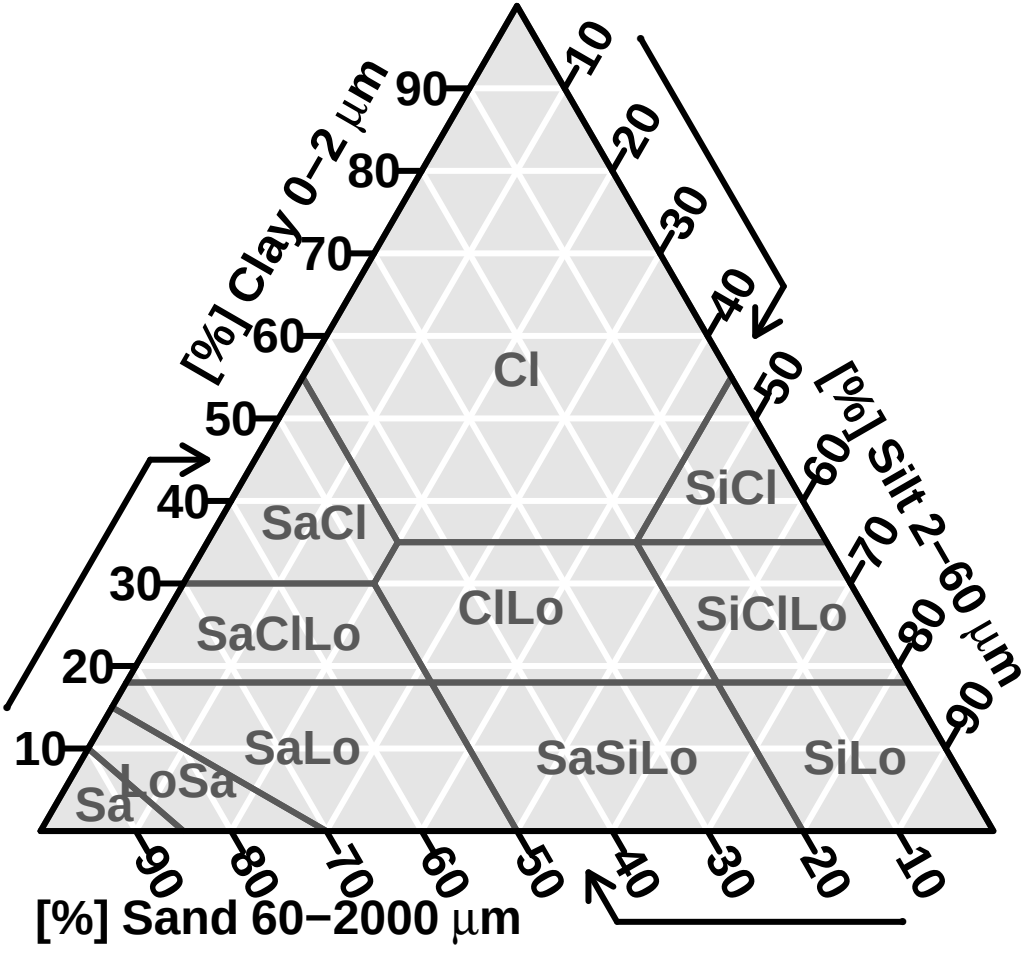
# Texture triangle: GEPPA (FR)



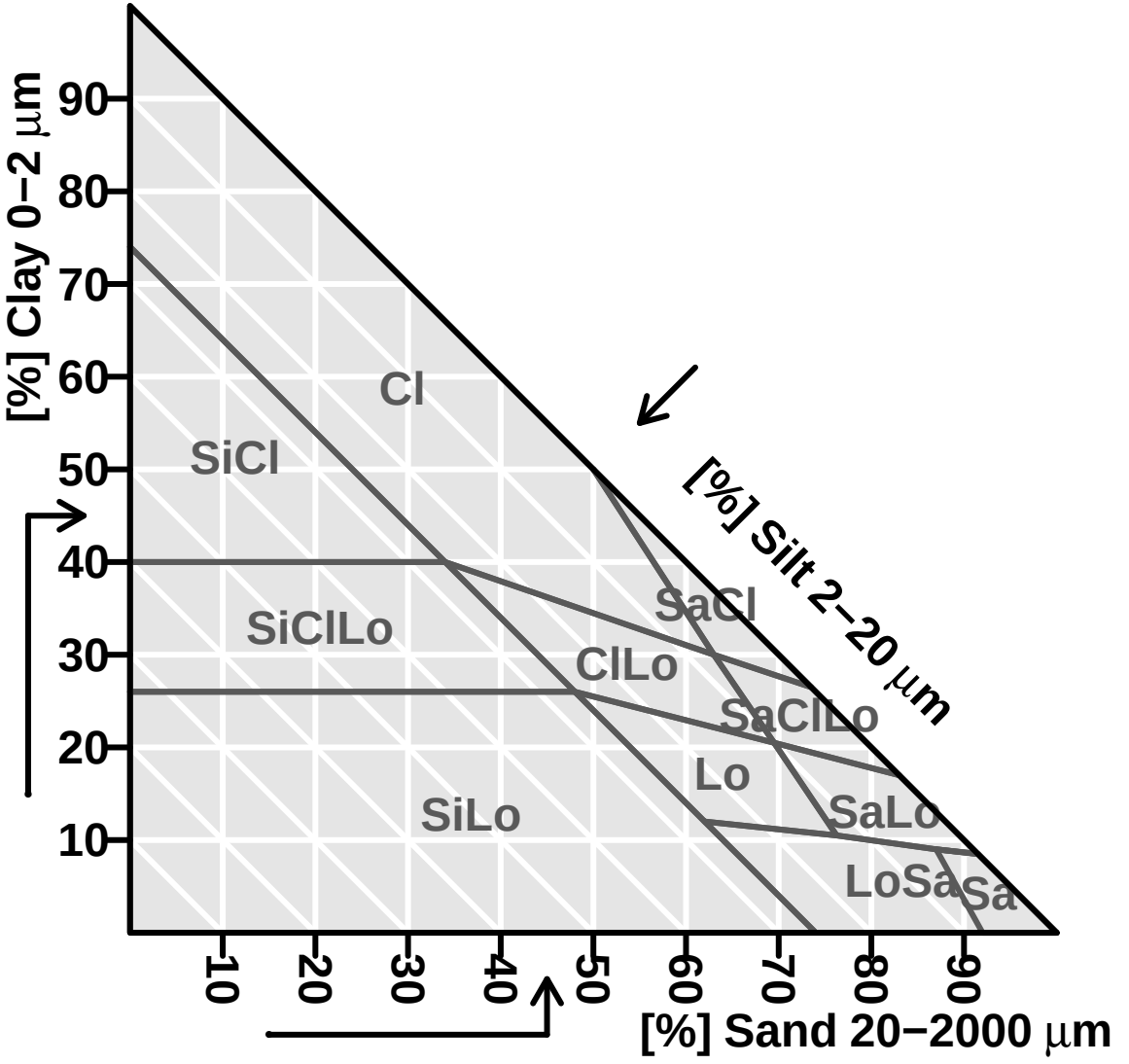
# Texture triangle: Bodenkundliche Kartieranleitung 1994 (



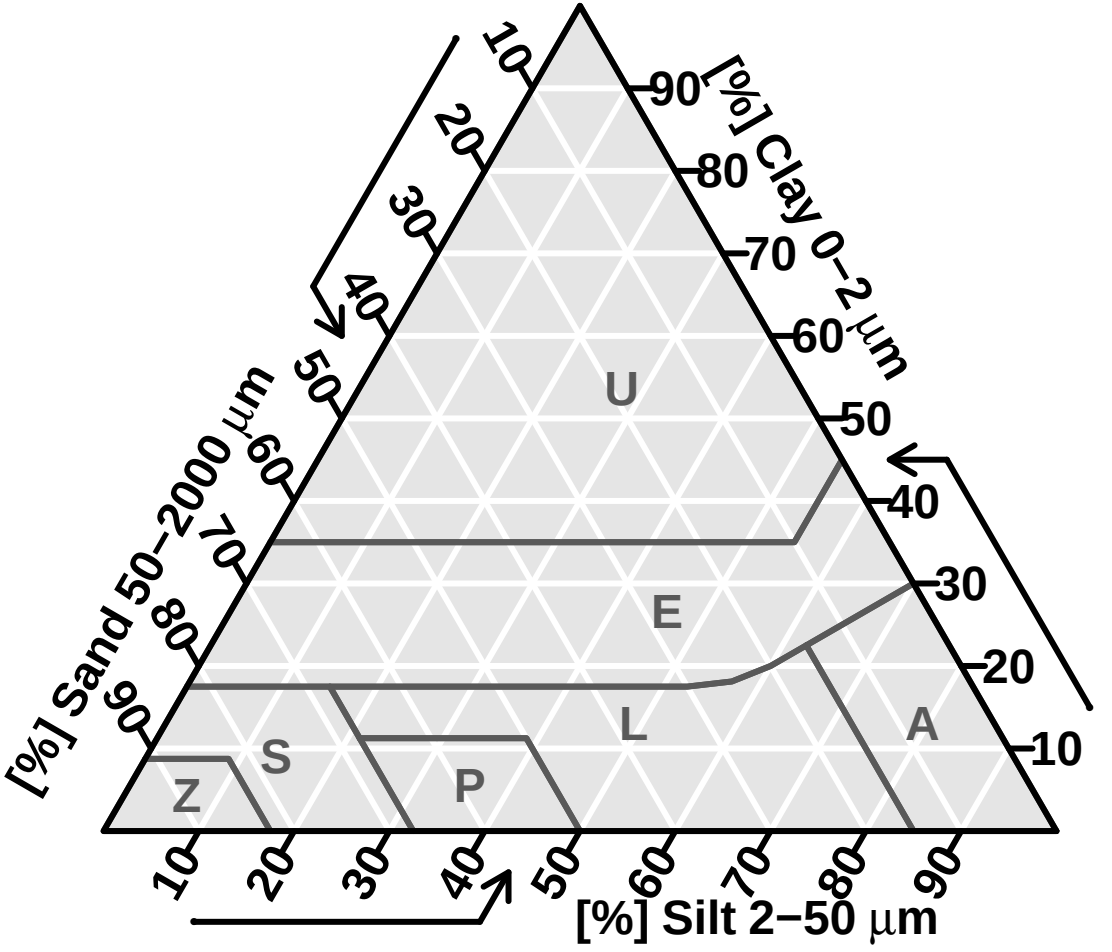
# Texture triangle: Soil Survey of England and Wales (UK)



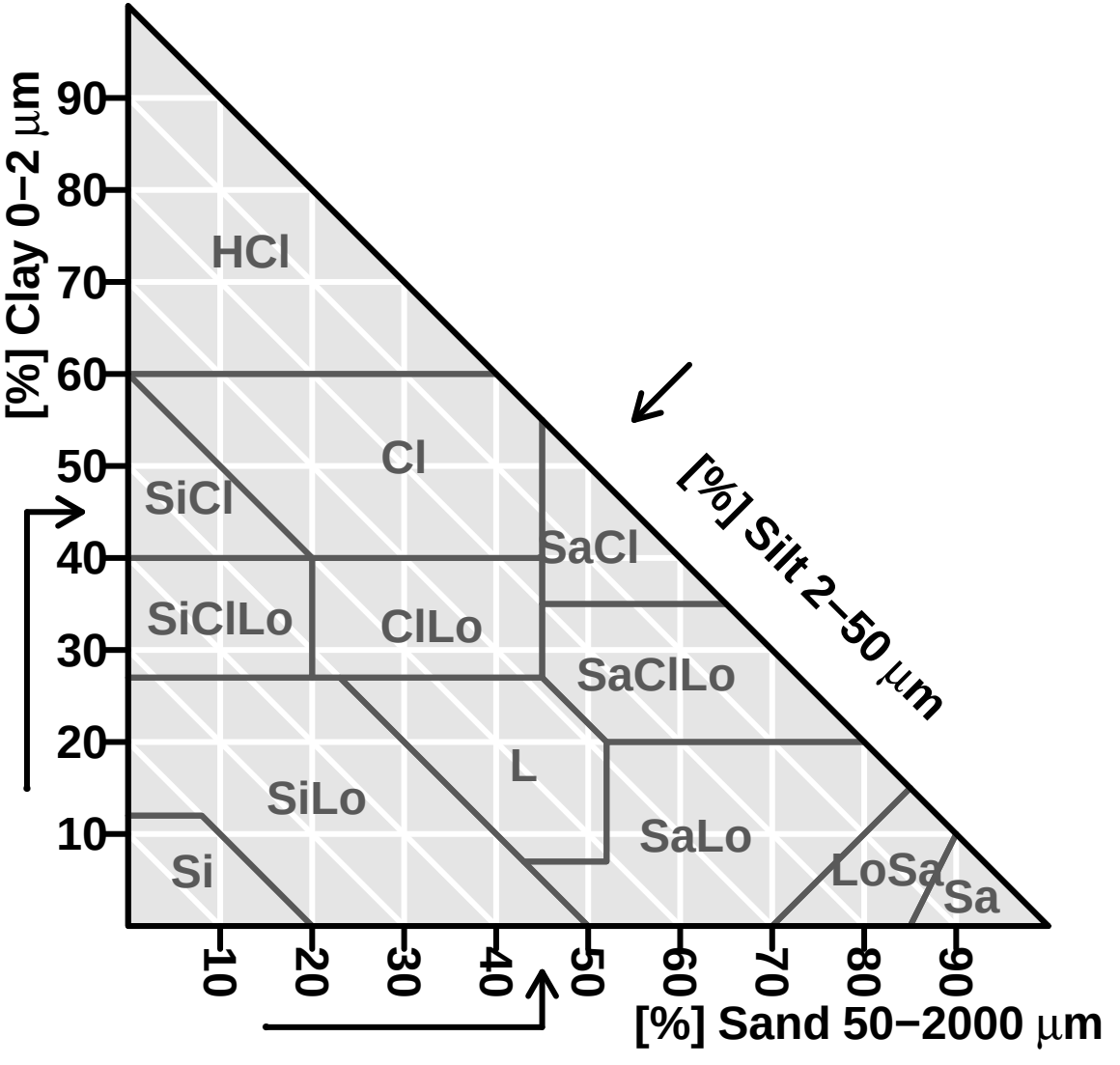
# Texture triangle: Autralia (AU)



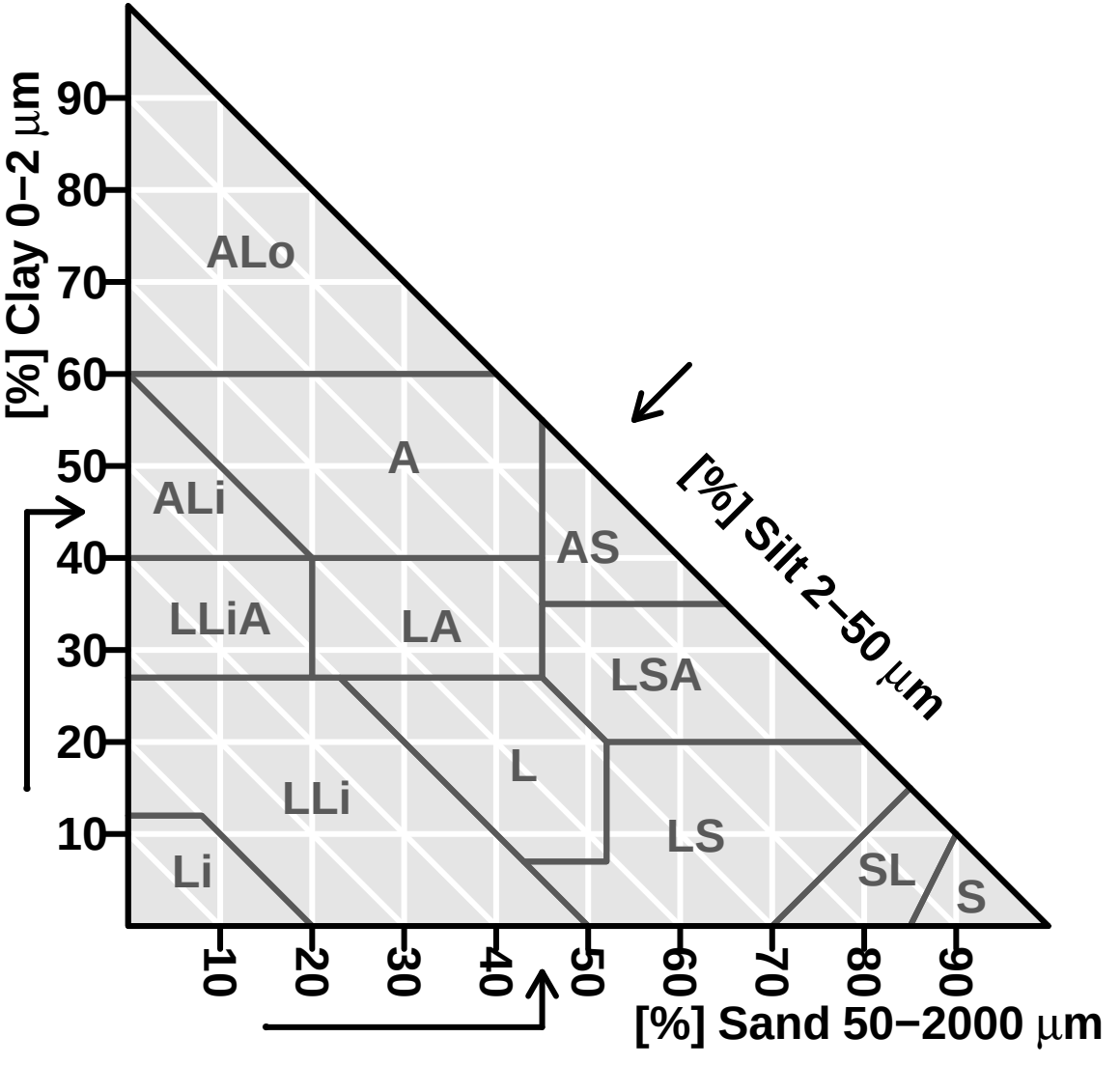
# Texture triangle: Belgium (BE)



# Texture triangle: Canada (CA)

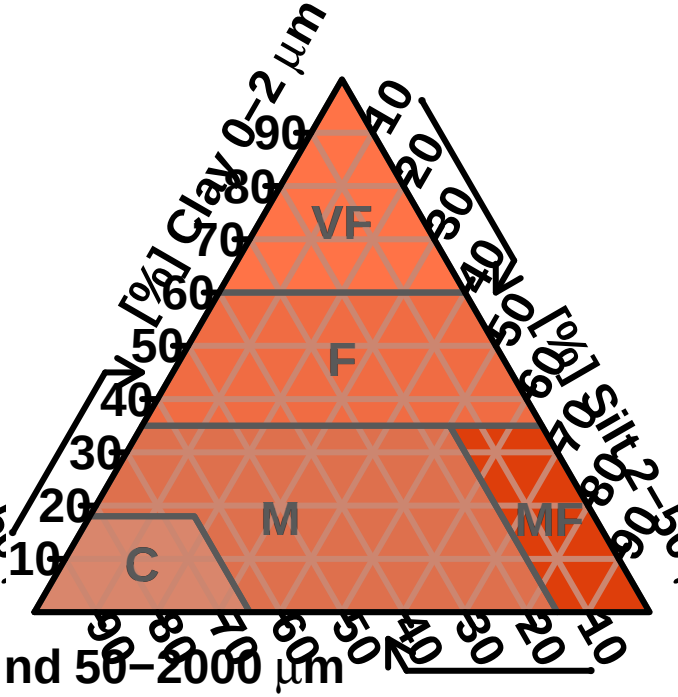


# Texture triangle: Canada (CA)

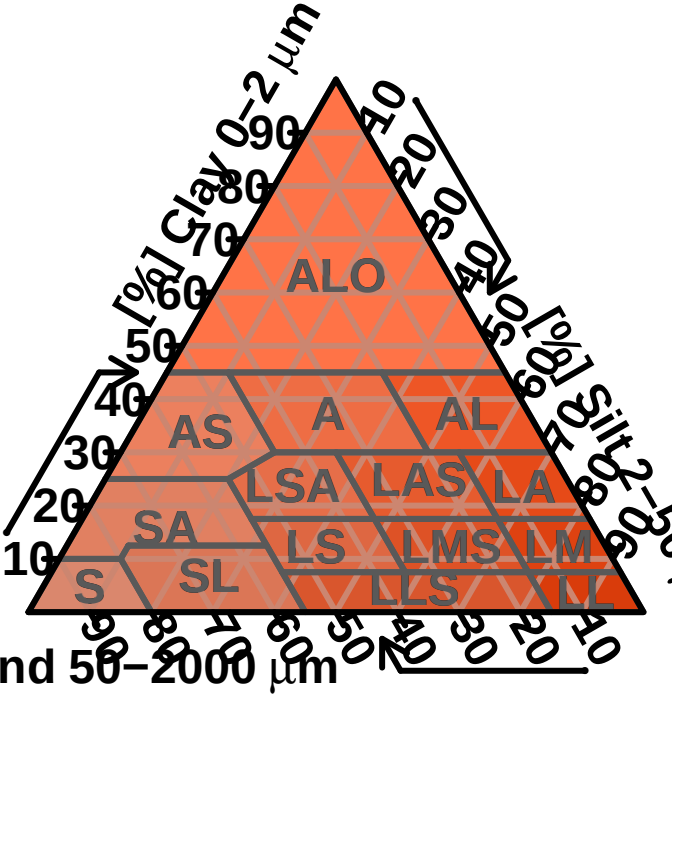


## Texture triangle: USDA

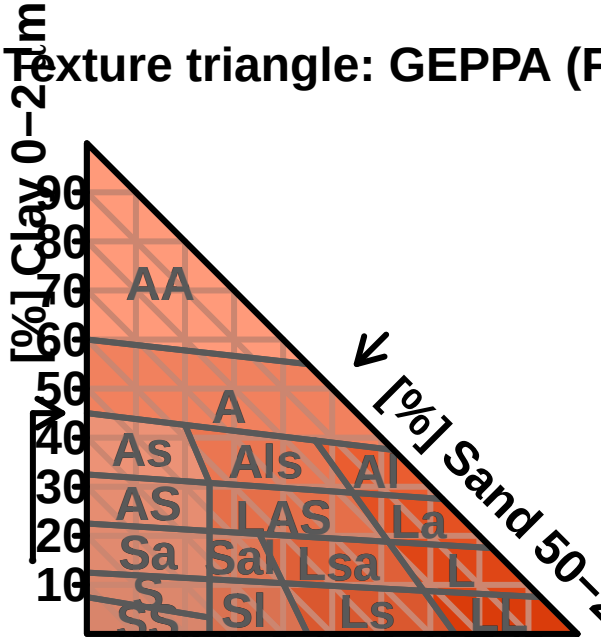
## Texture triangle: FAO/HYPRES

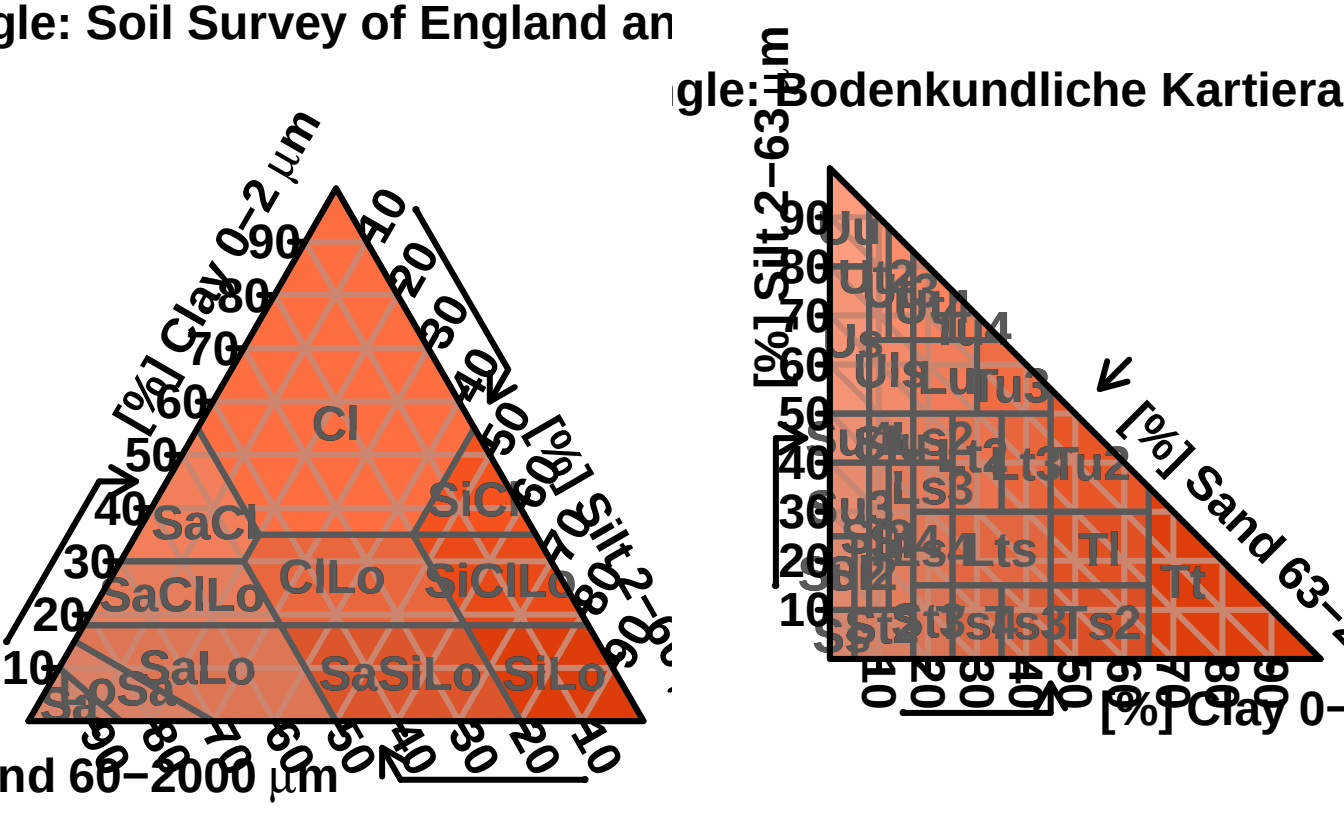


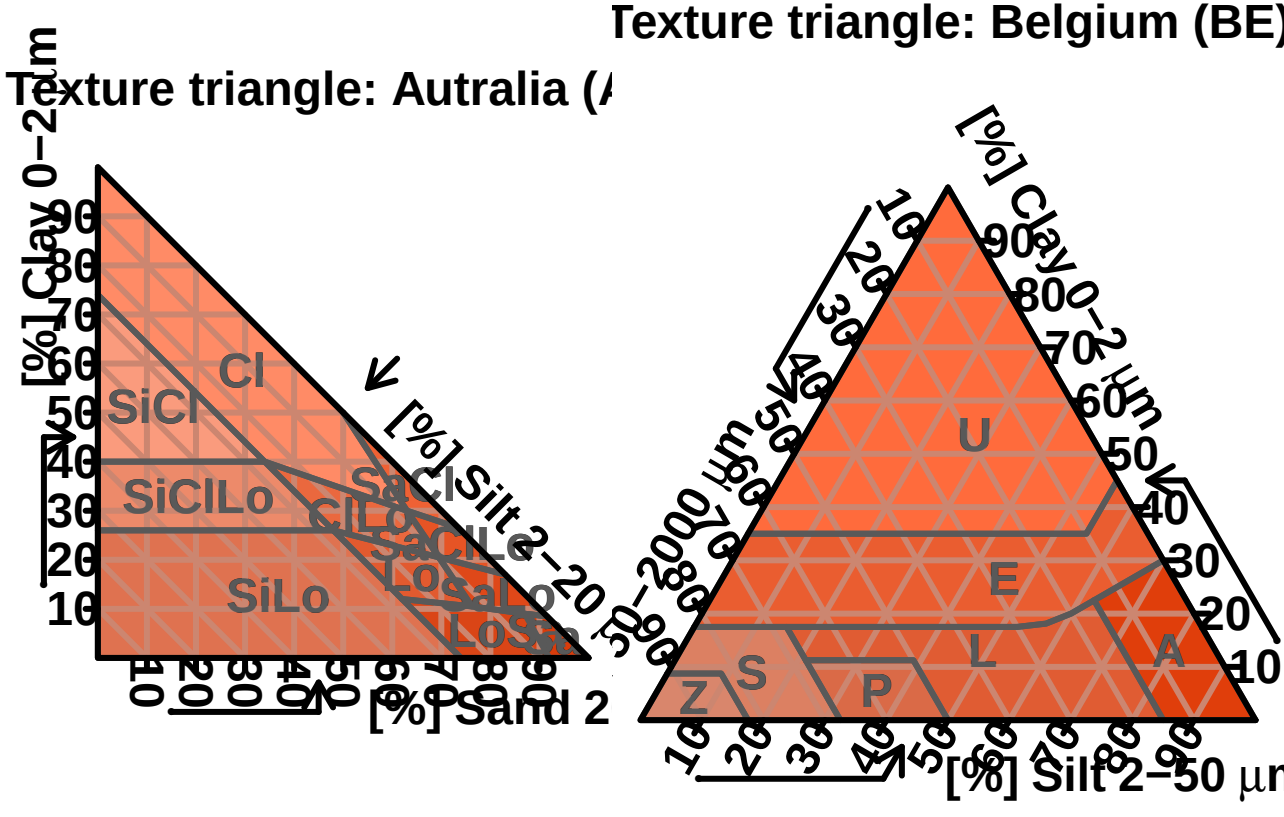
## Texture triangle: Aisne (FR)

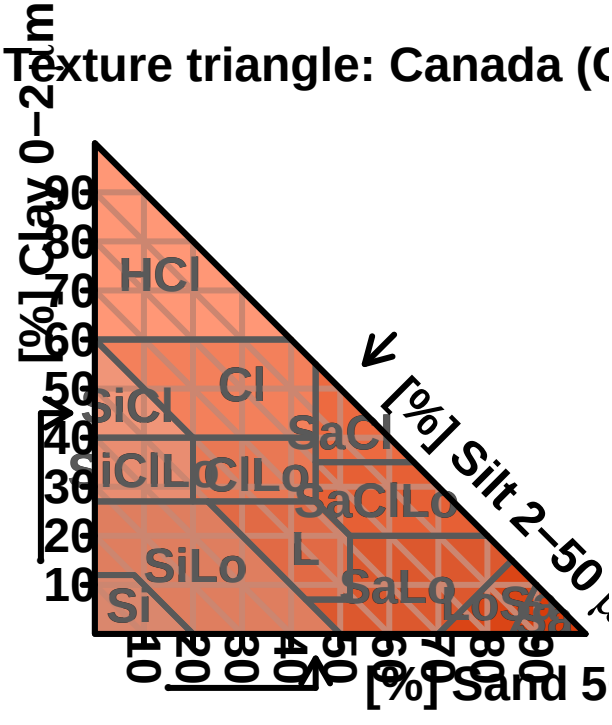


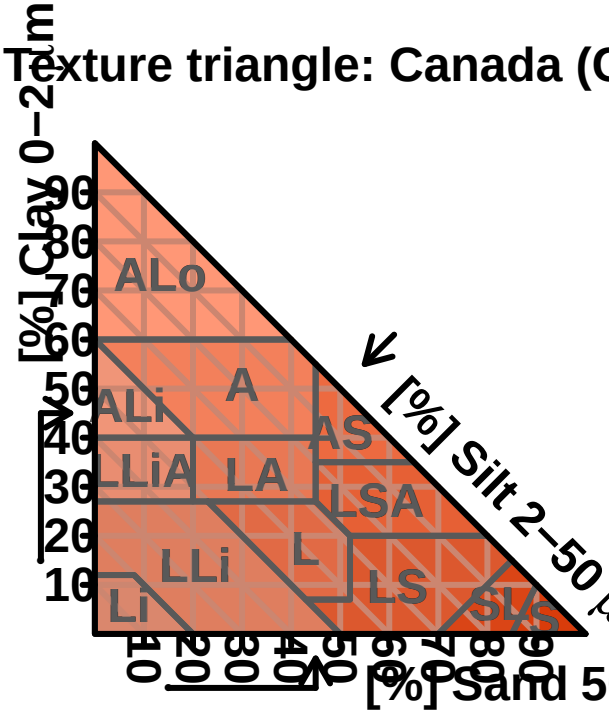

## Texture triangle: GEPPA (F



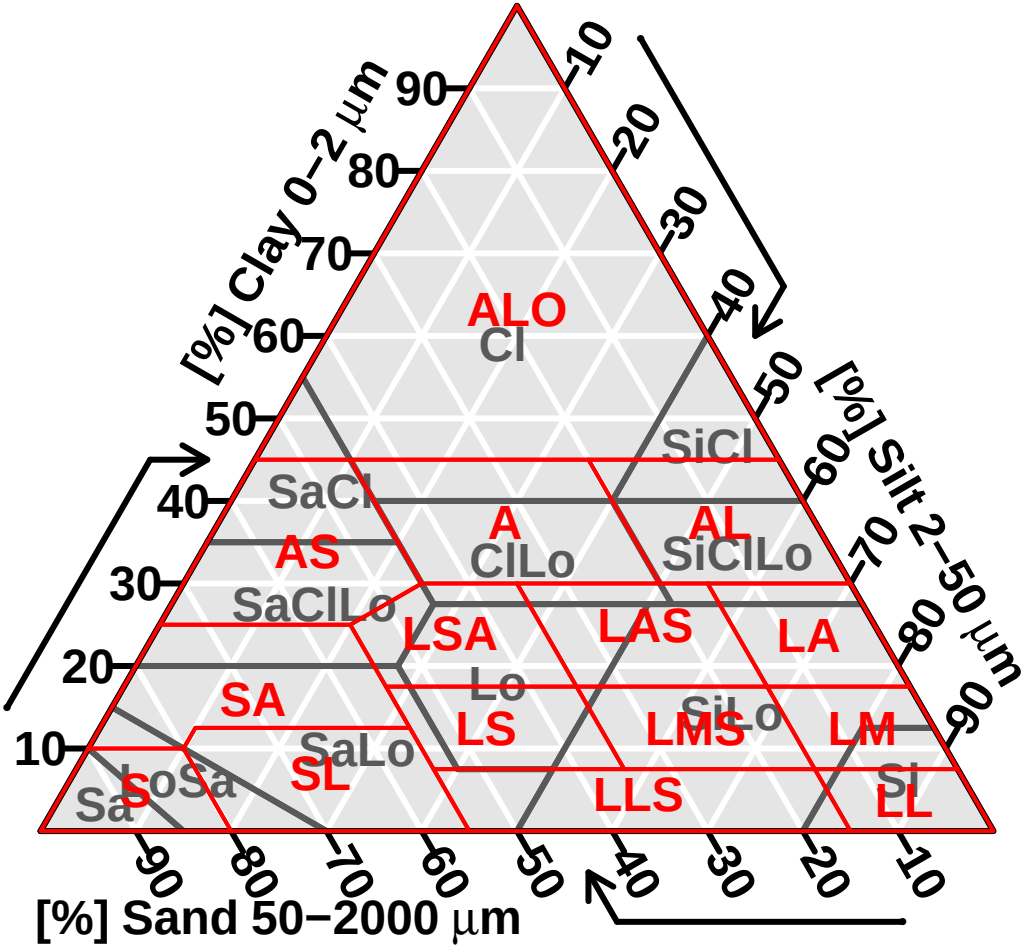

gle: Soil Survey of England an
gle: Bodenkundliche Kartiera
[%] Clay 0–2 µm
[%] Silt 2–63 µm
[%] Sand 63–2
nd 60–2000 µm
[%] Clay 0–
Cl
SiCl
SaCl
ClLo
SiClLo
SaClLo
SaLo
SaSiLo
SiLo
Sa
Uu
Ut2
Ut3
Ut4
Us
Uls
Lu
Tu3
Lt2
Lt3
Tu2
Ls3
Lts
Tl
Tt
Ts2
Ts3
Ts4
Ls4
St2
St3
Ss


Texture triangle: Belgium (BE)
Texture triangle: Autralia (A
[%] Clay 0–2 µm
[%] Silt 2–20 µm
[%] Sand 2
Cl
SiCl
SiClLo
SiLo
SaCl
ClLo
SaClLe
LoSa
[%] Clay 0–2 µm
[%] Silt 2–50 µm
U
E
L
A
S
P
Z

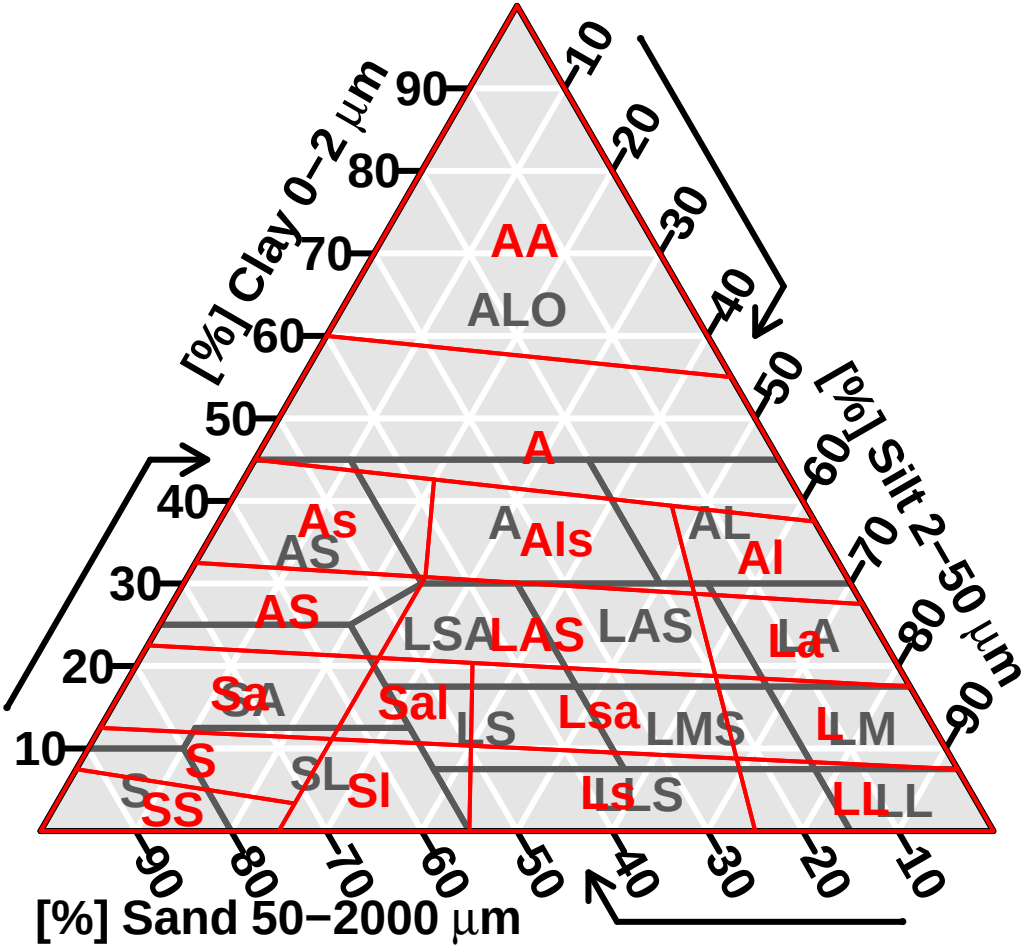

Texture triangle: Canada (C
[%] Clay 0–2 µm
[%] Silt 2–50 µ
[%] Sand 5
HCl
Cl
SiCl
SaCl
SiClL
ClLo
SaClLo
L
SiLo
SaLo
Si
LoS


Texture triangle: Canada (C
[%] Clay 0–2 µm
[%] Silt 2–50 µ
[%] Sand 5
ALo
A
ALi
AS
LLiA
LA
LSA
L
LLi
LS
Li
SLS

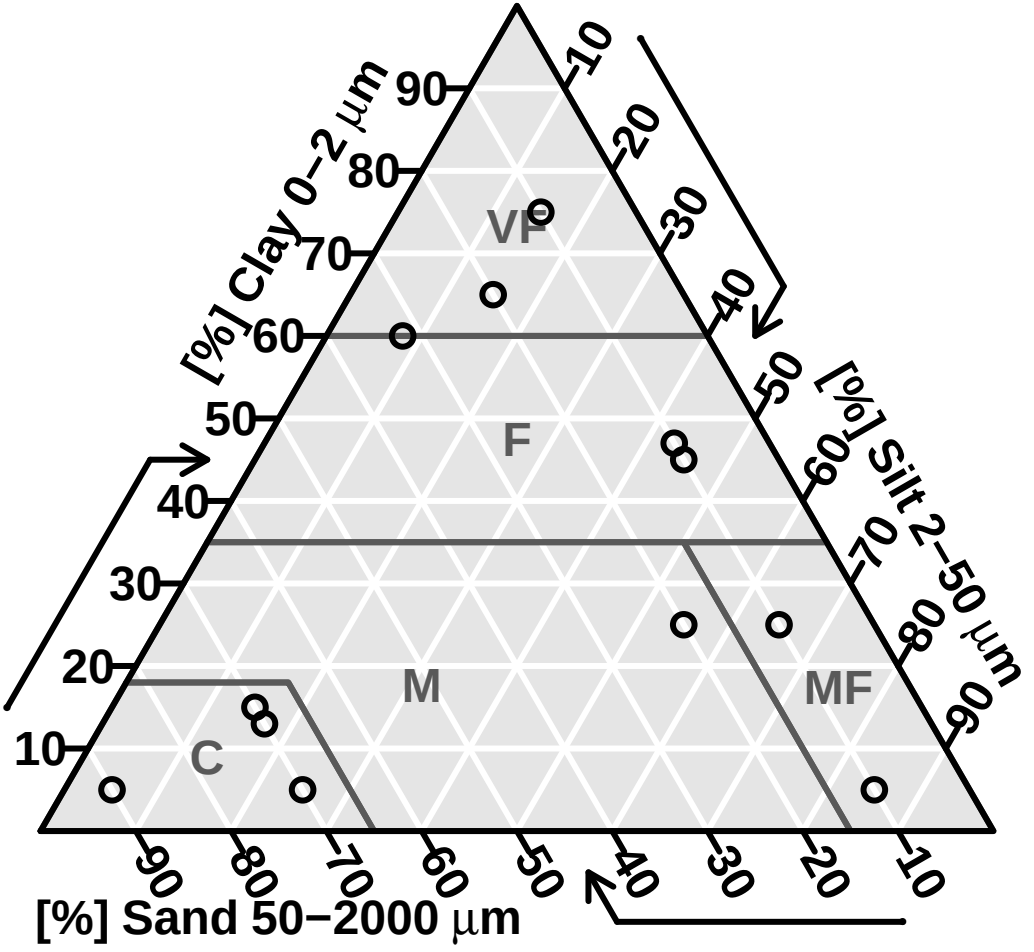
# USDA and French Aisne triangles, overplotted



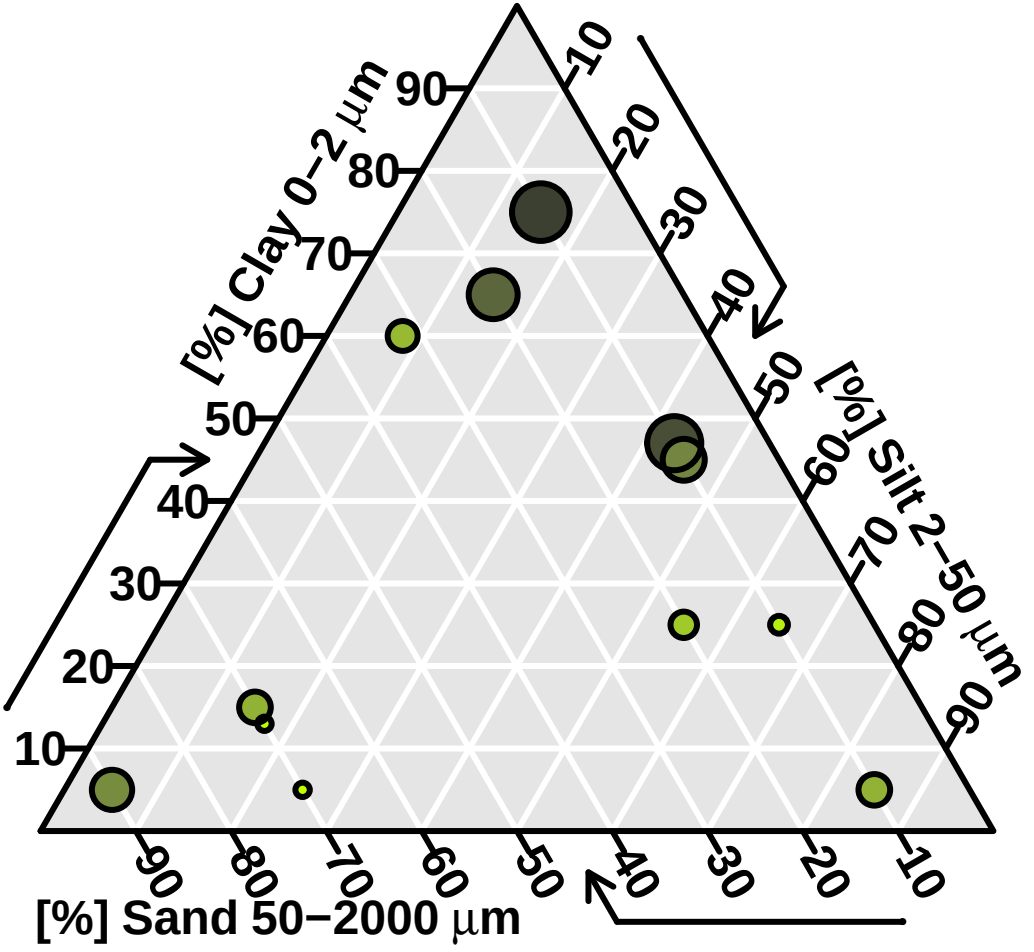
# French Aisne and GEPPA triangles, overplotted



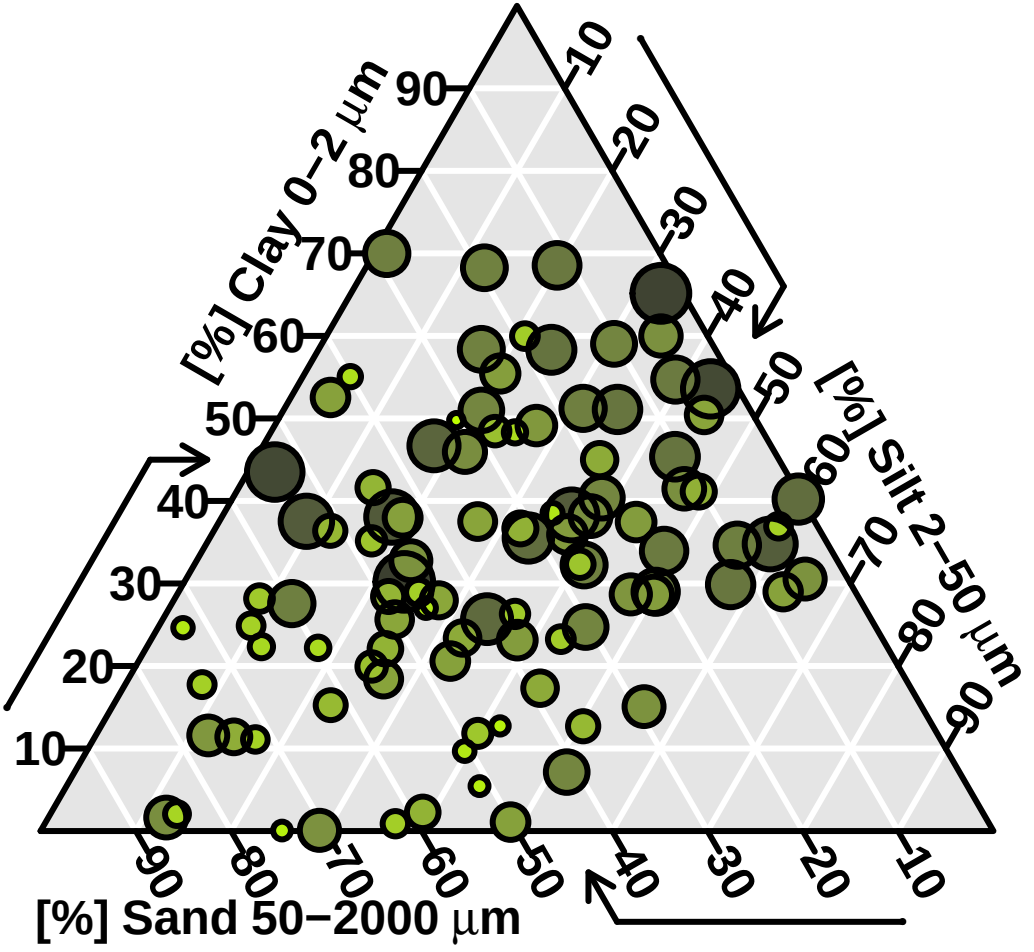
# Soil texture data



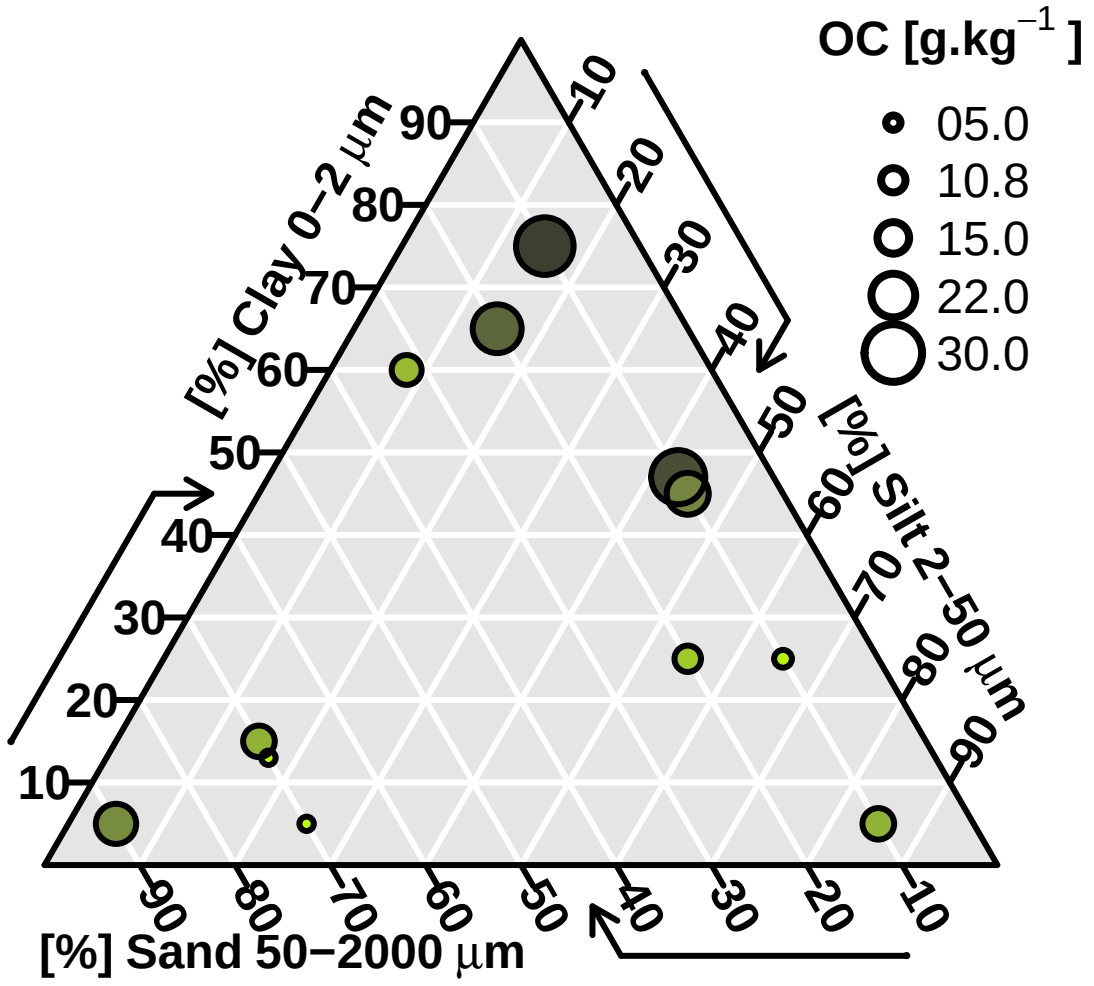
# Soil texture triangle and OC bubble plot



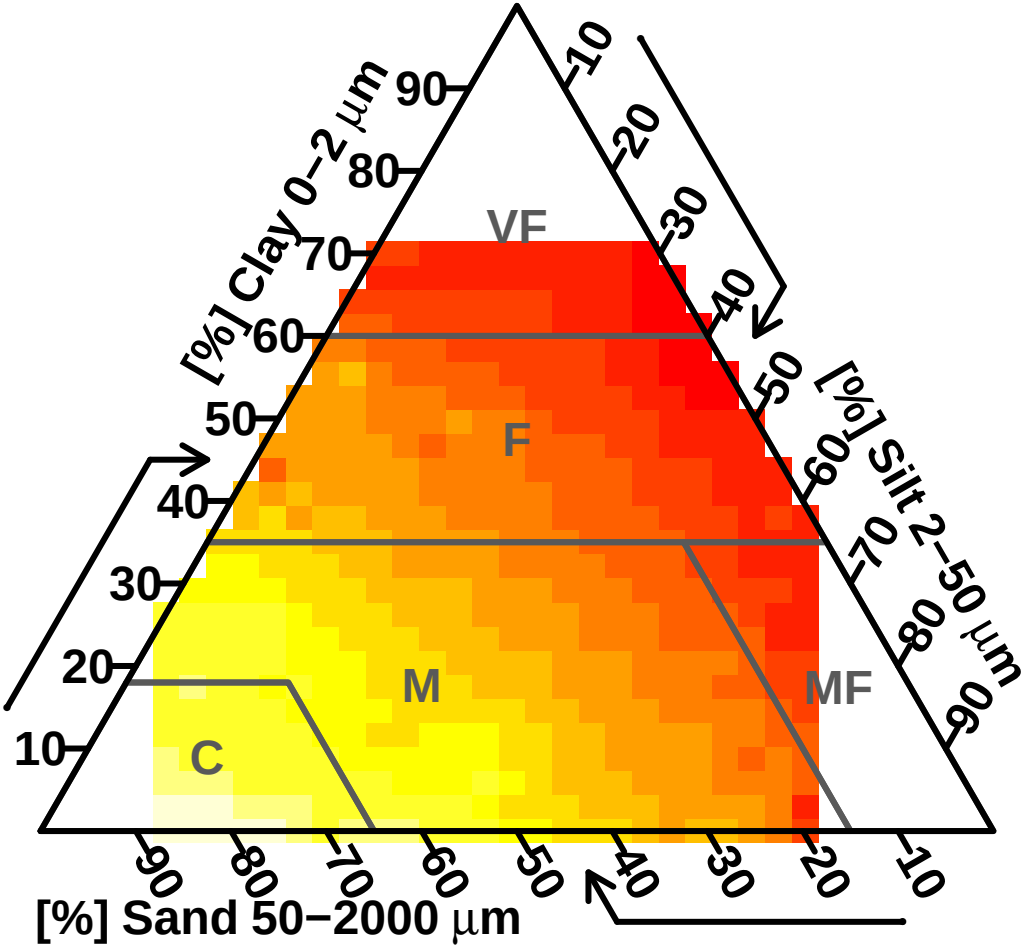
# Soil texture triangle and Z bubble plot



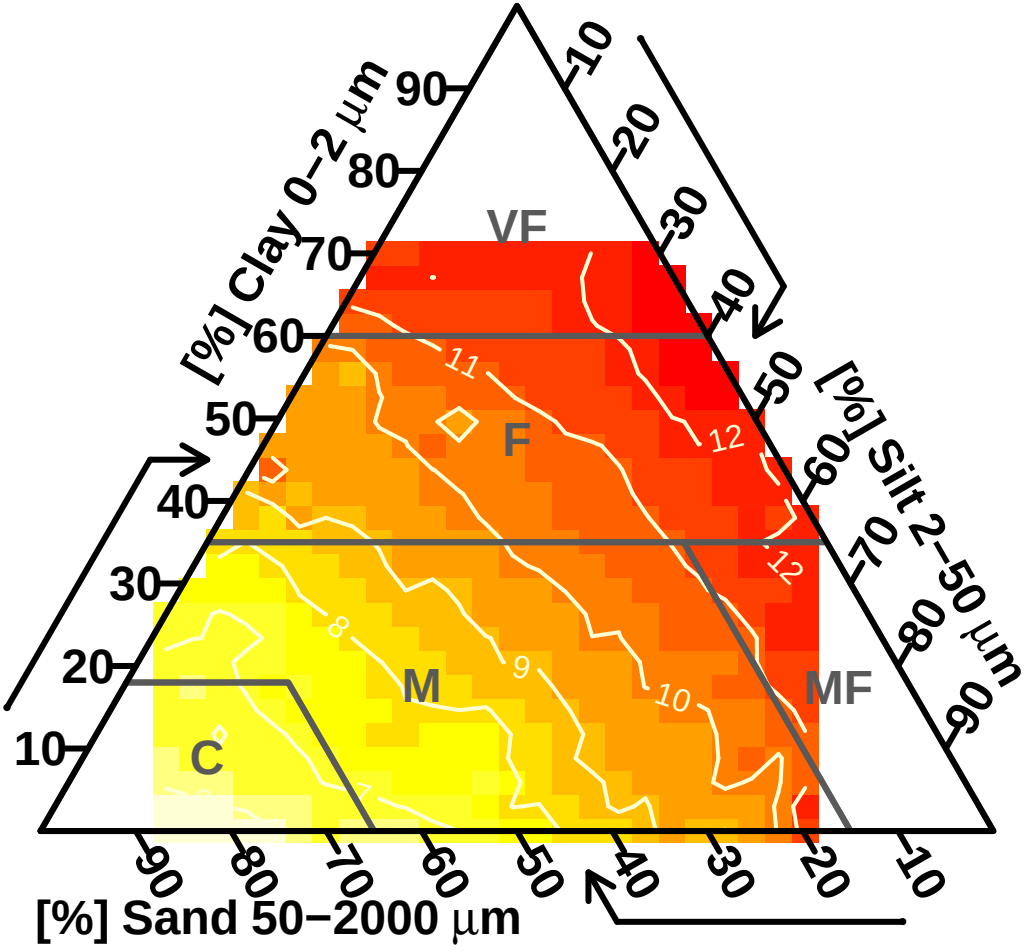
# Soil texture triangle and OC bubble plot



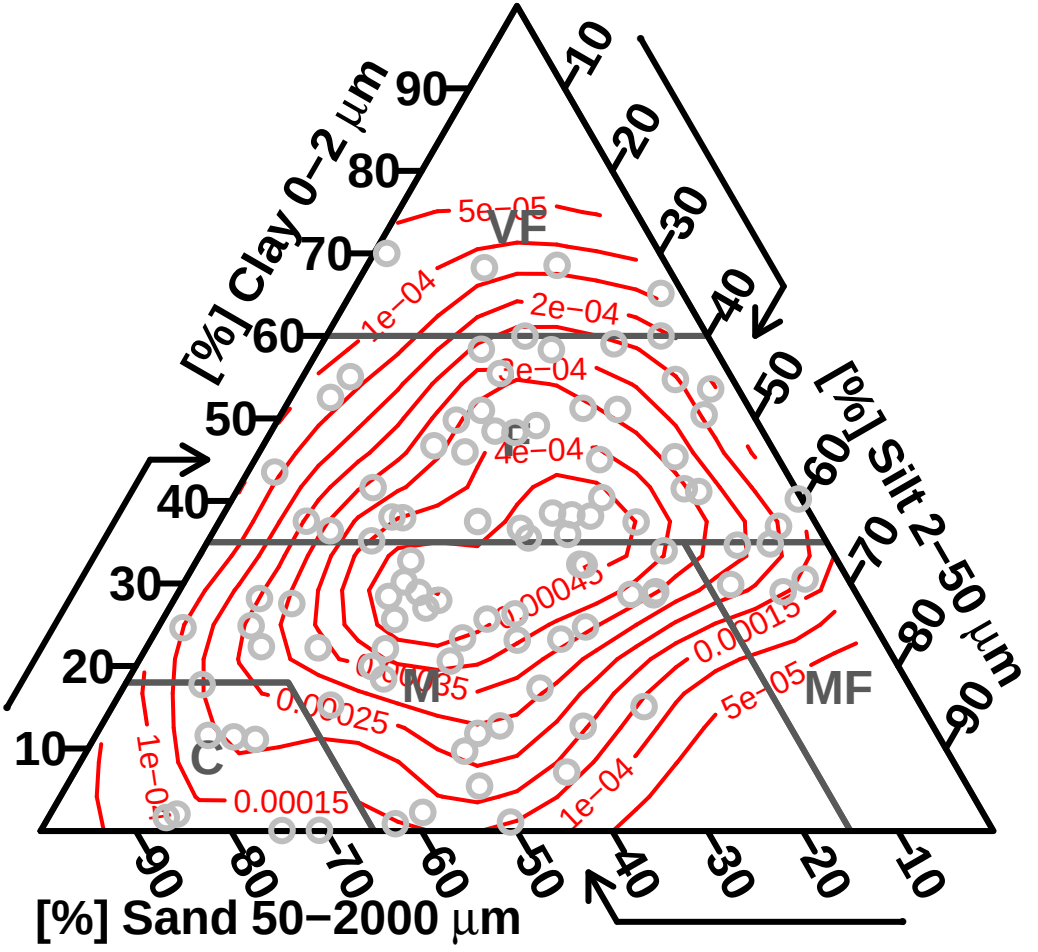
# Soil texture triangle and Z heatmap



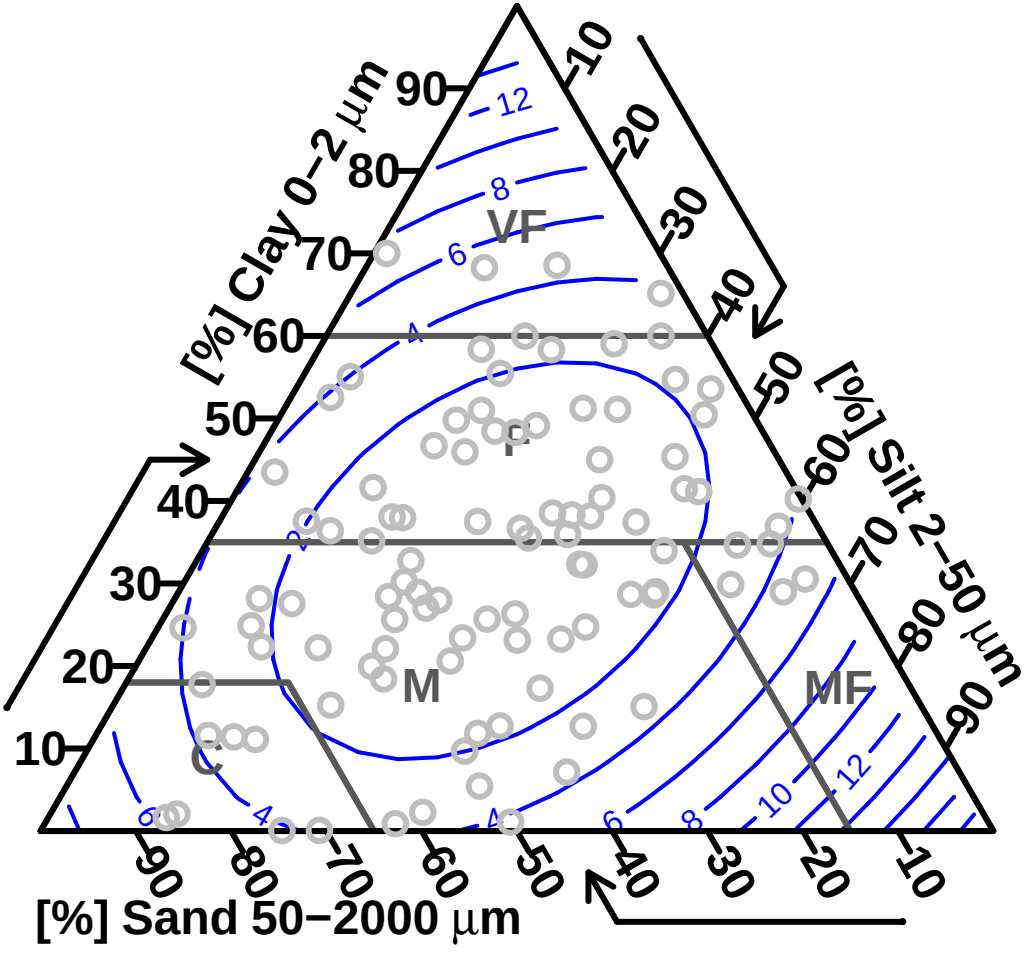
# Soil texture triangle and Z heatmap



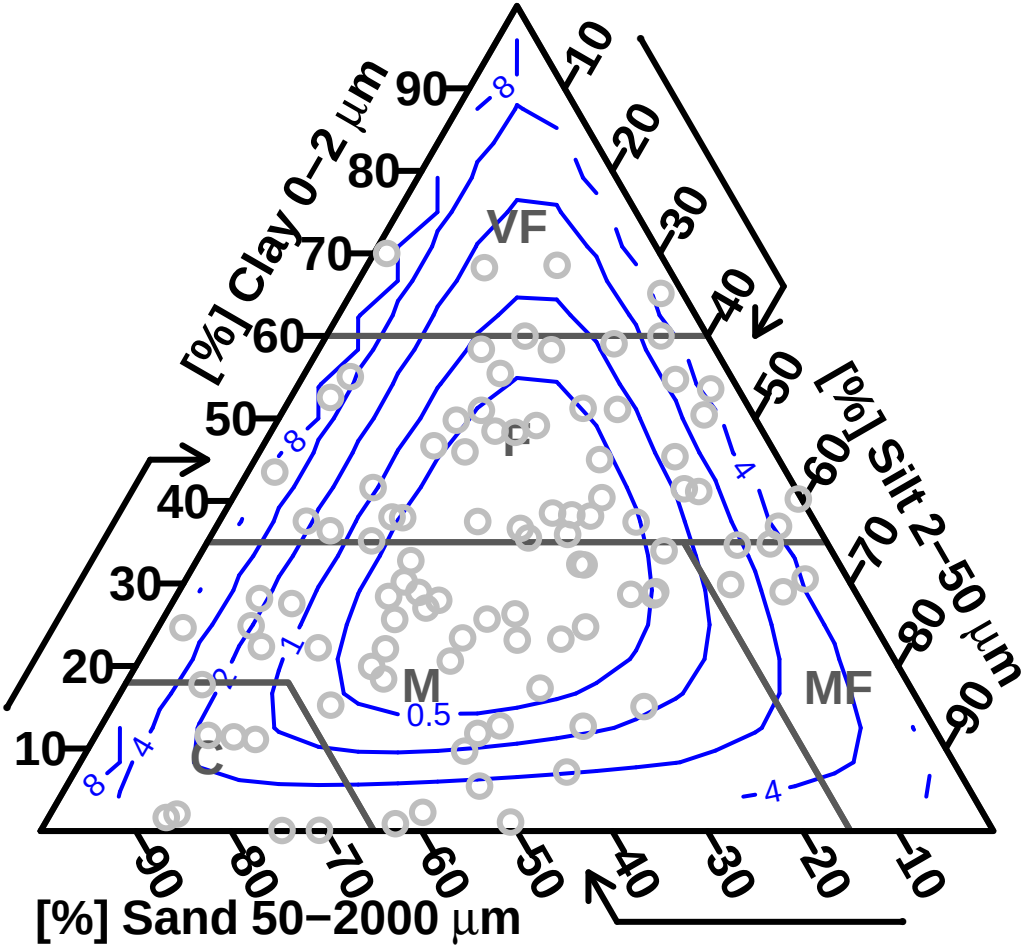
# Probability density estimate of the texture data



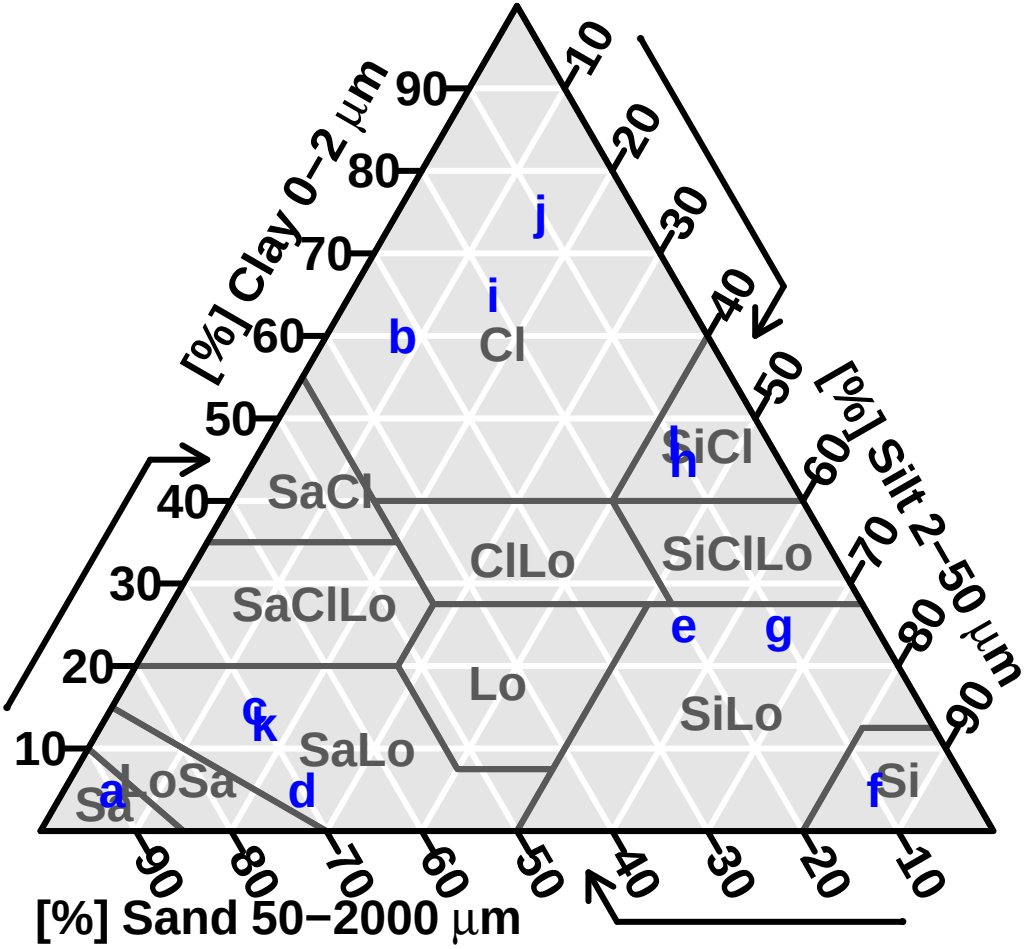
# Texture data Mahalanobis distance

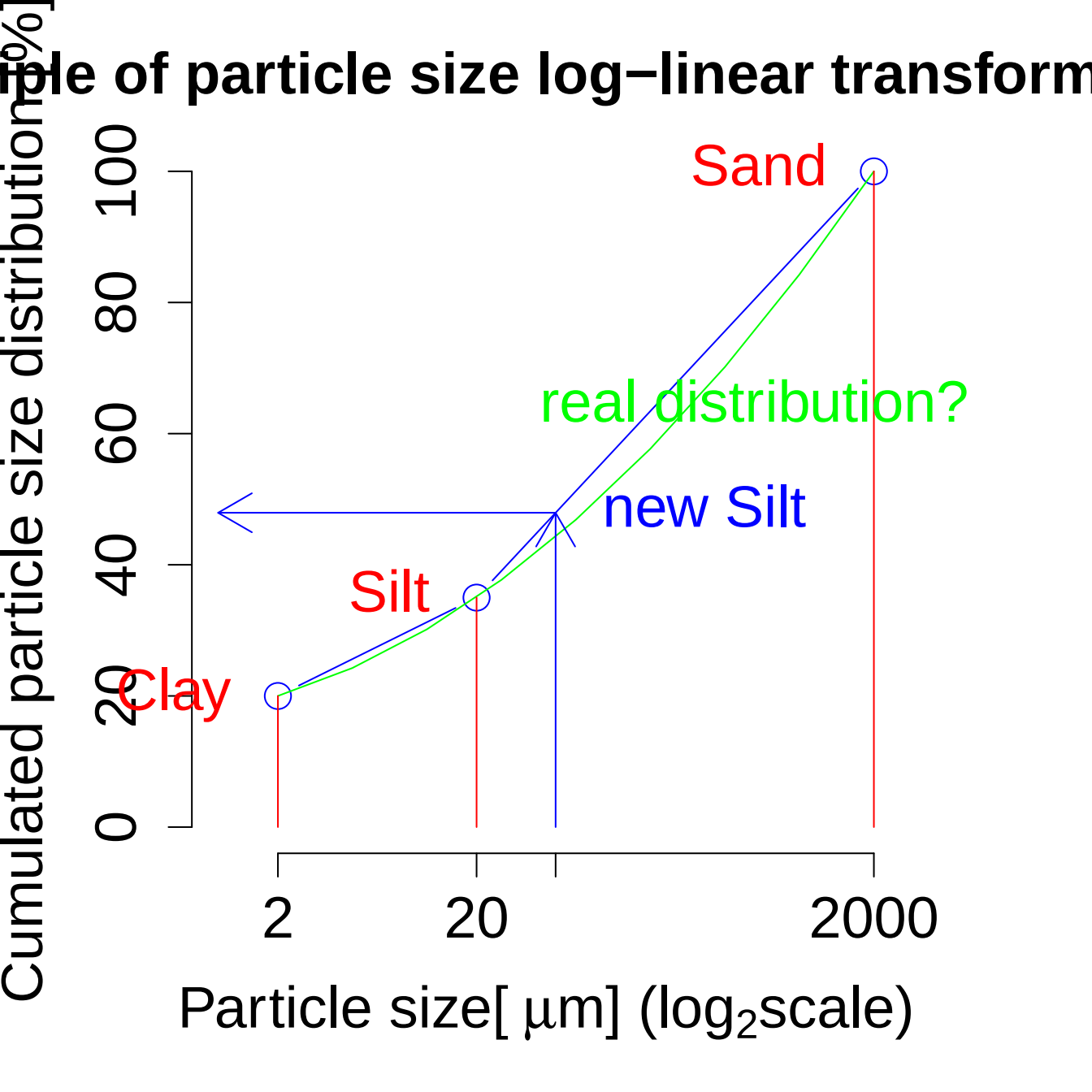


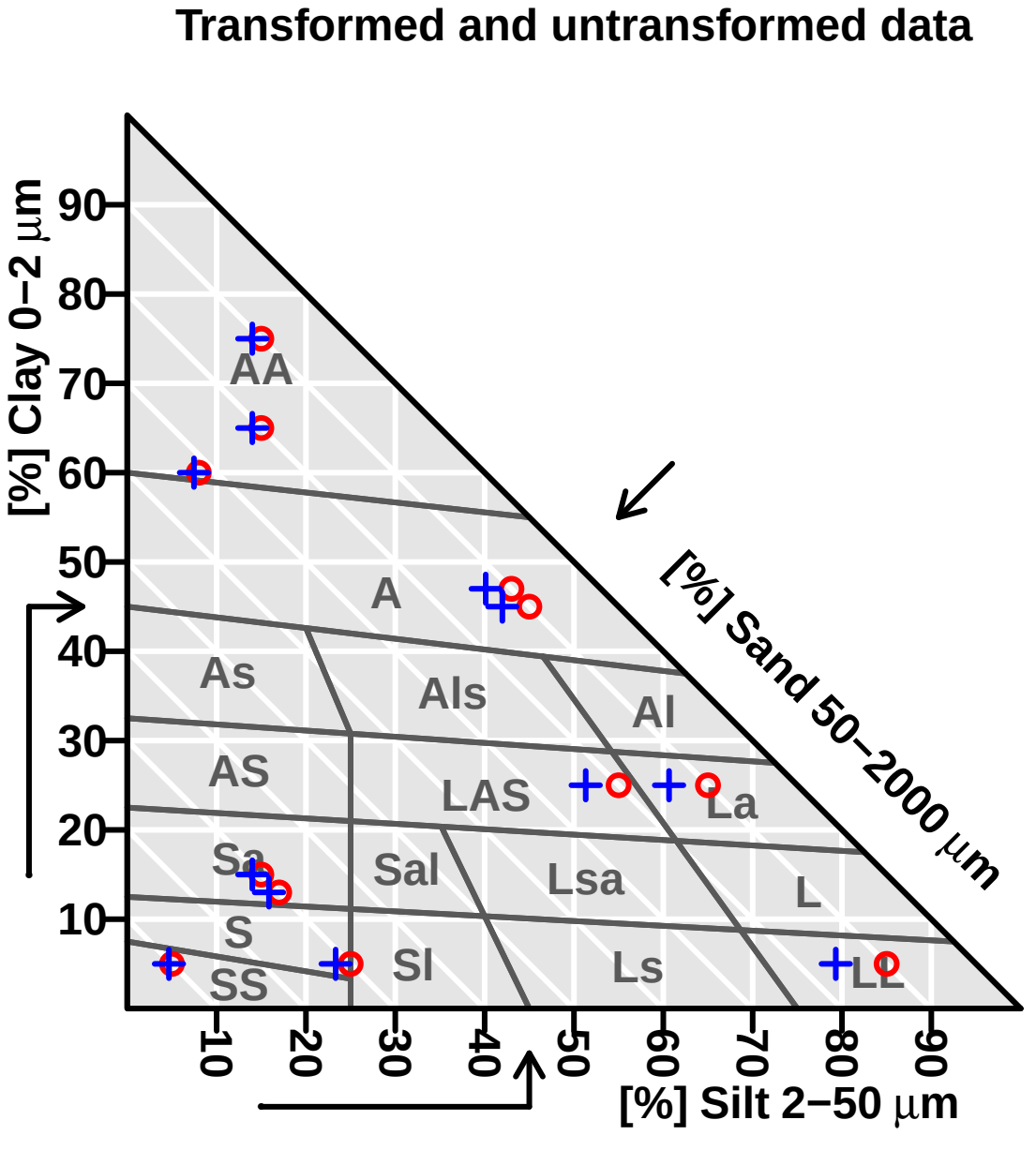
# Texture data Mahalanobis distance



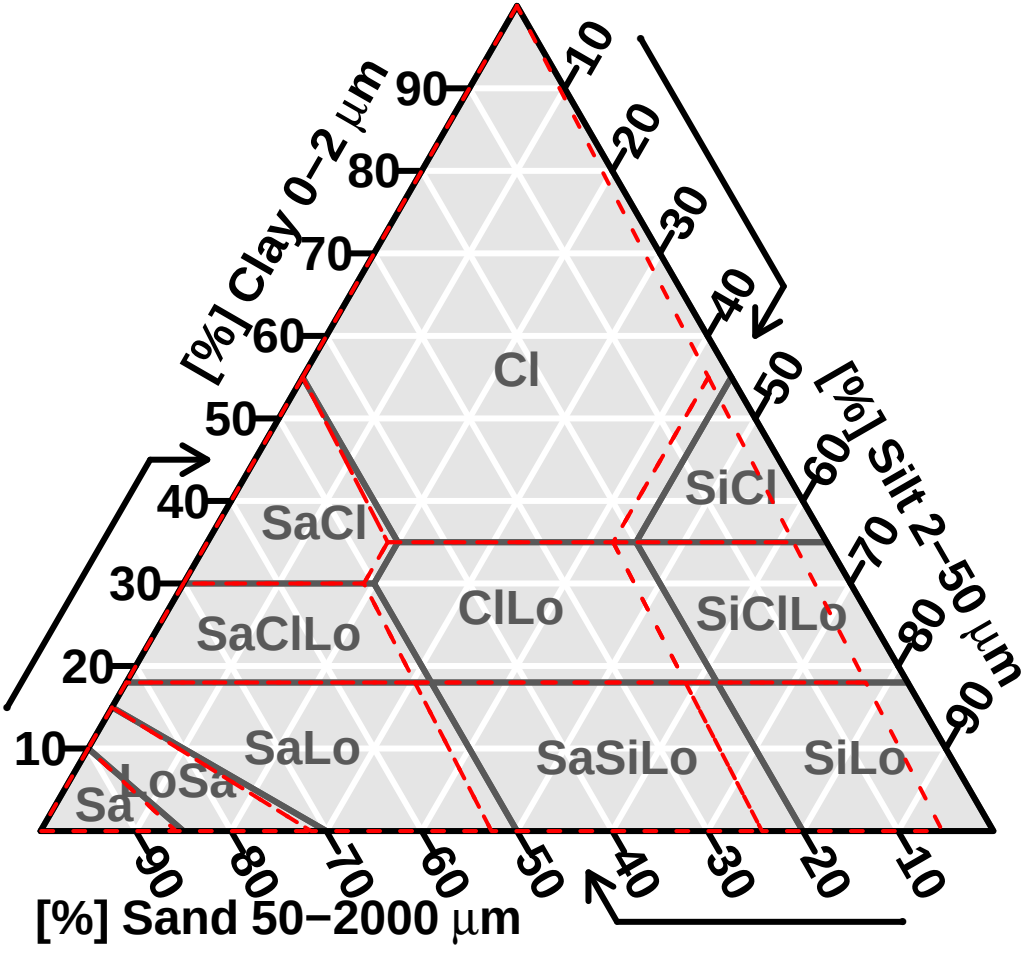
# Texture triangle: USDA



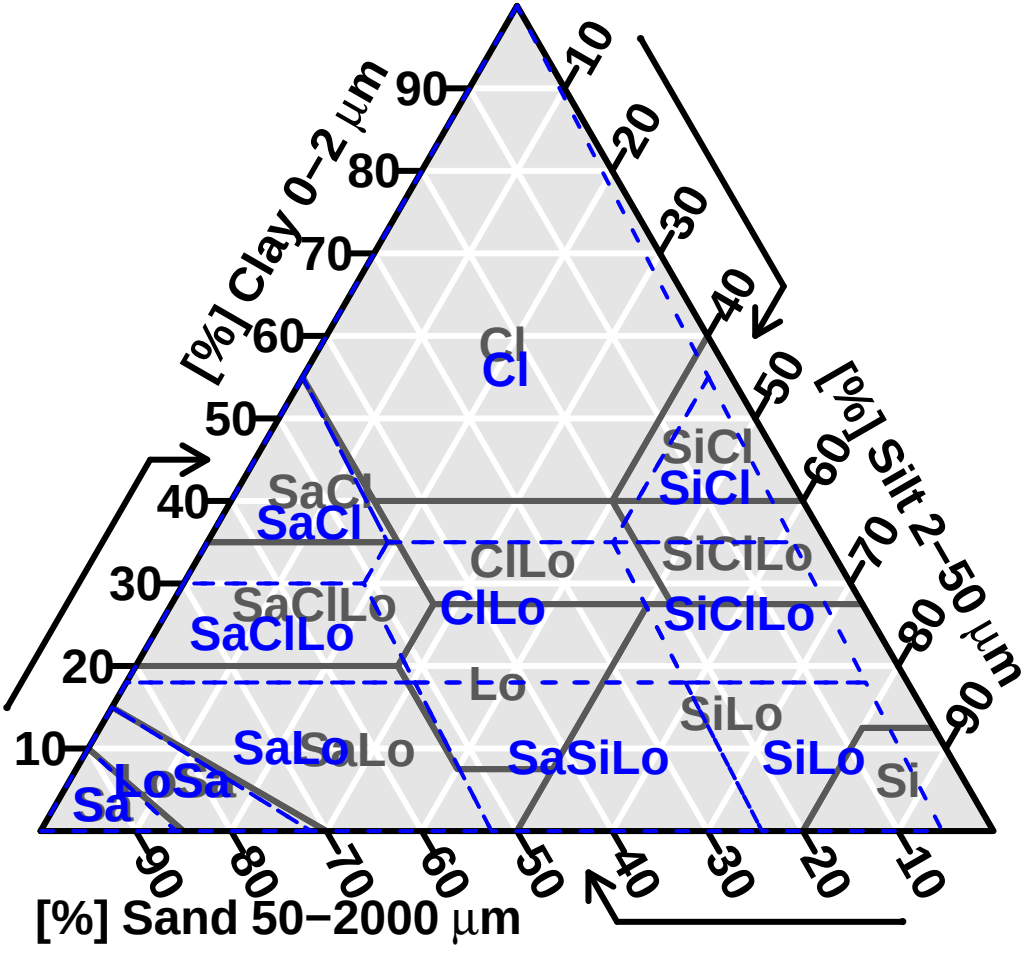

ple of particle size log−linear transform
Cumulated particle size distribution[%]
0
20
40
60
80
100
Sand
real distribution?
new Silt
Silt
Clay
2
20
2000
Particle size[ μm] (log2scale)


Transformed and untransformed data
[%] Clay 0–2 µm
90
80
70
60
50
40
30
20
10
AA
A
As
Als
Al
AS
LAS
La
Sa
Sal
Lsa
L
S
SI
Ls
LL
SS
[%] Sand 50–2000 µm
10
20
30
40
50
60
70
80
90
[%] Silt 2–50 µm

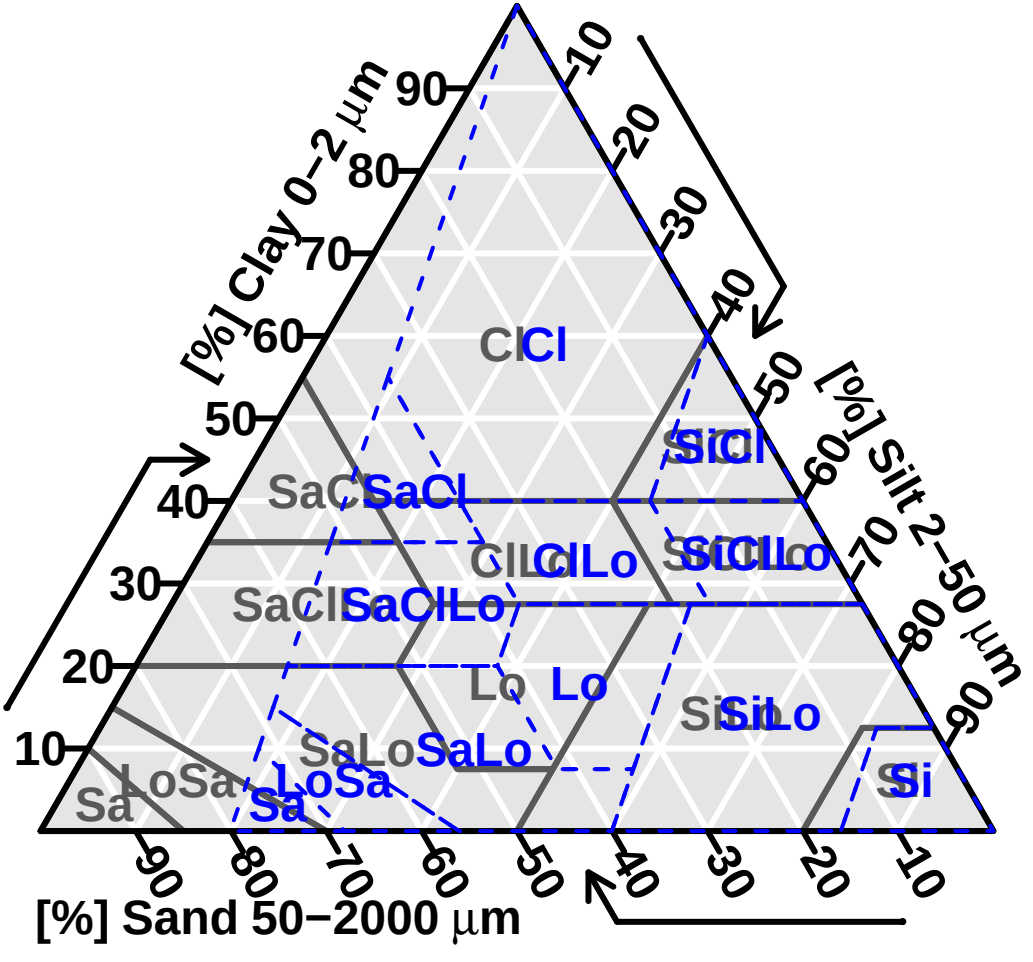
# Dummy transformation of the UK texture triangle



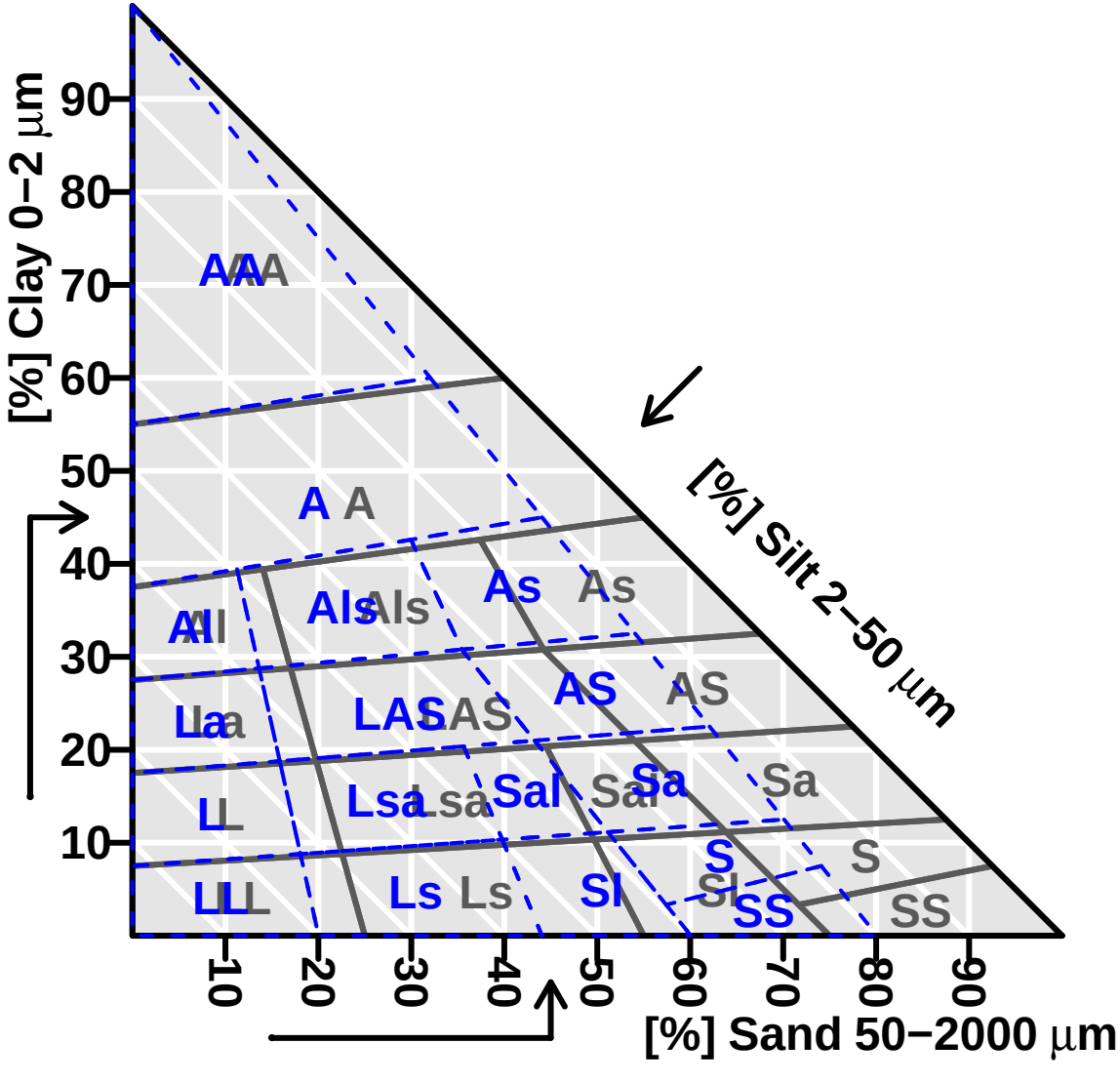
# USDA and transformed UK triangle, overplotted



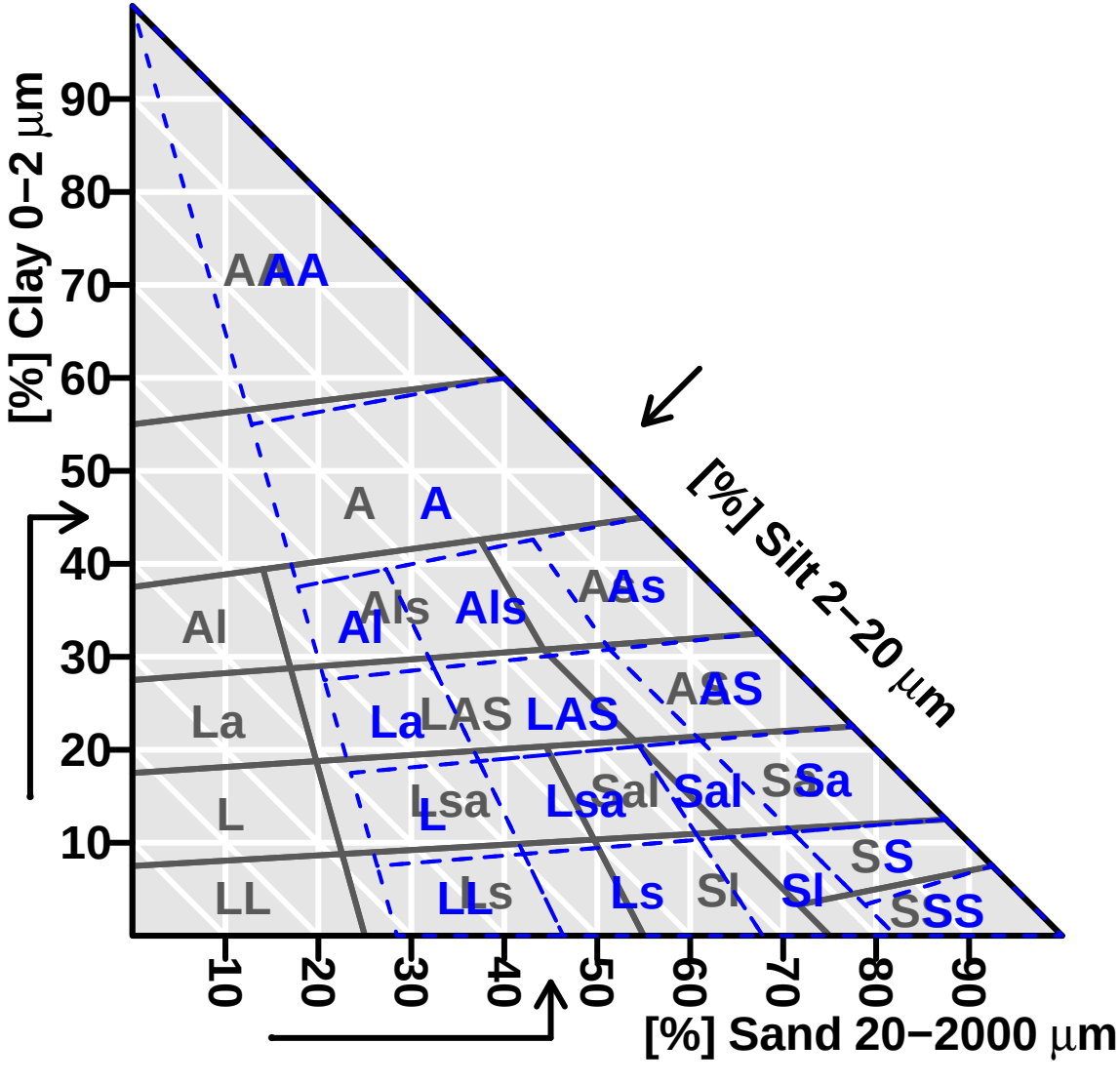
# (Dummy) transformation of the USDA texture triangle



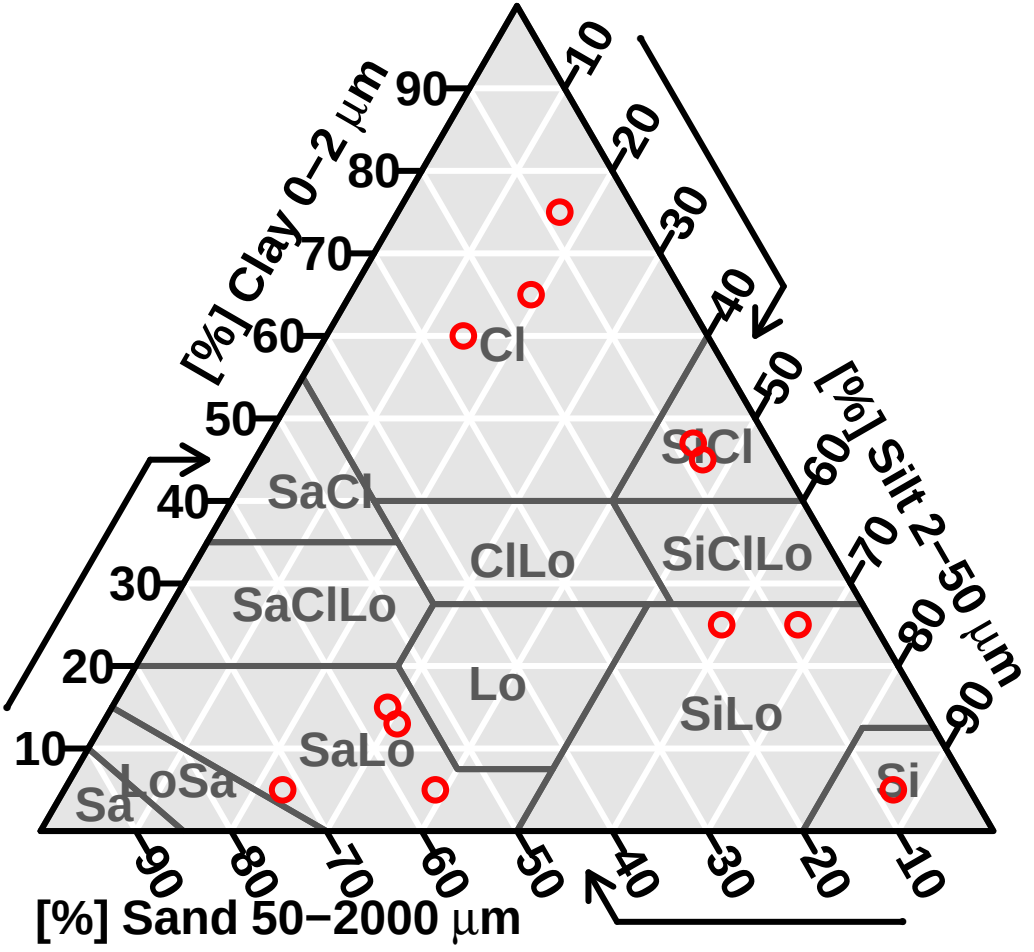
# (Dummy) transformation of the GEPPA texture triangle



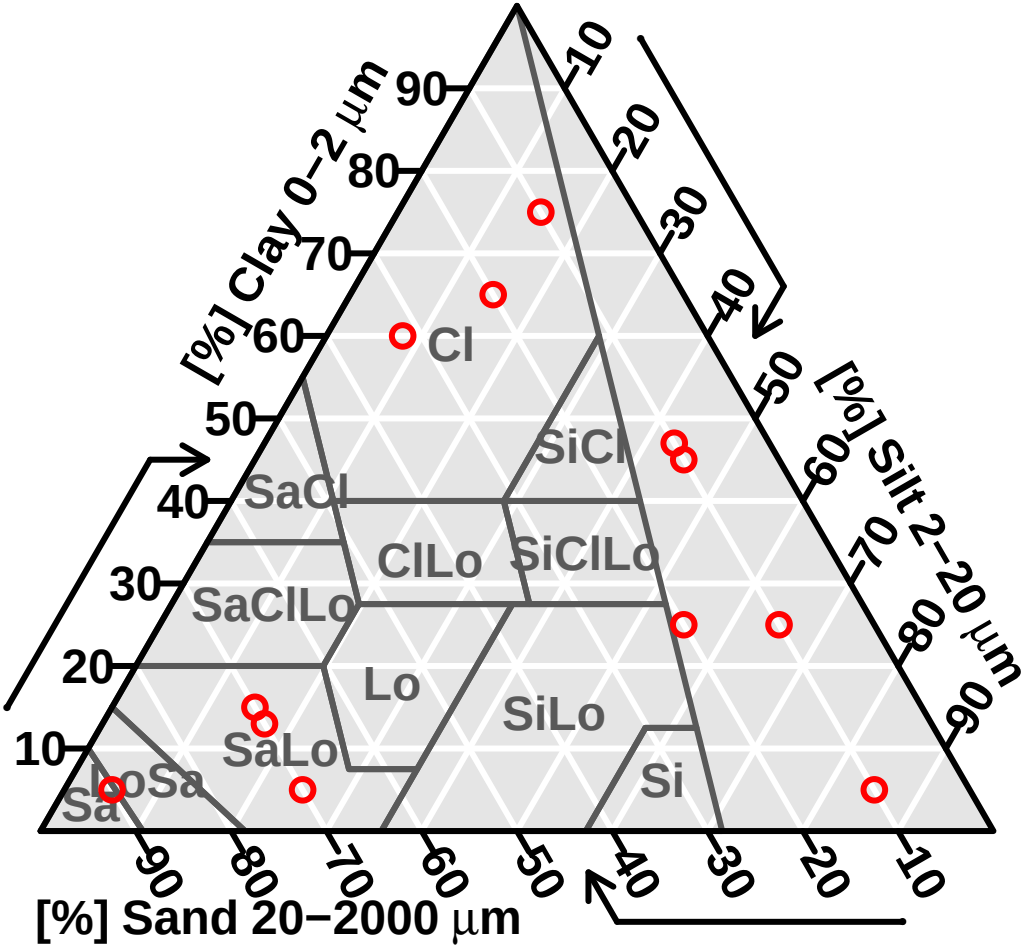
# (Dummy) transformation of the GEPPA texture triangle



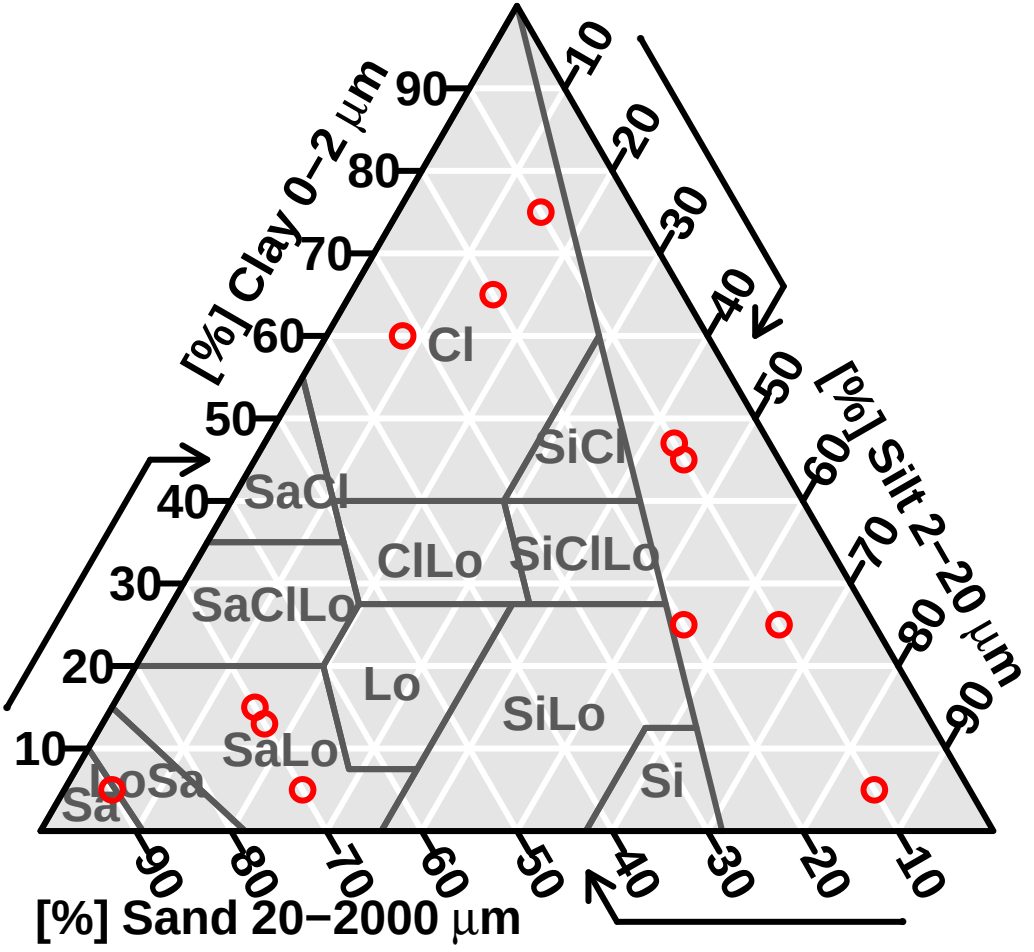
# Texture triangle: USDA

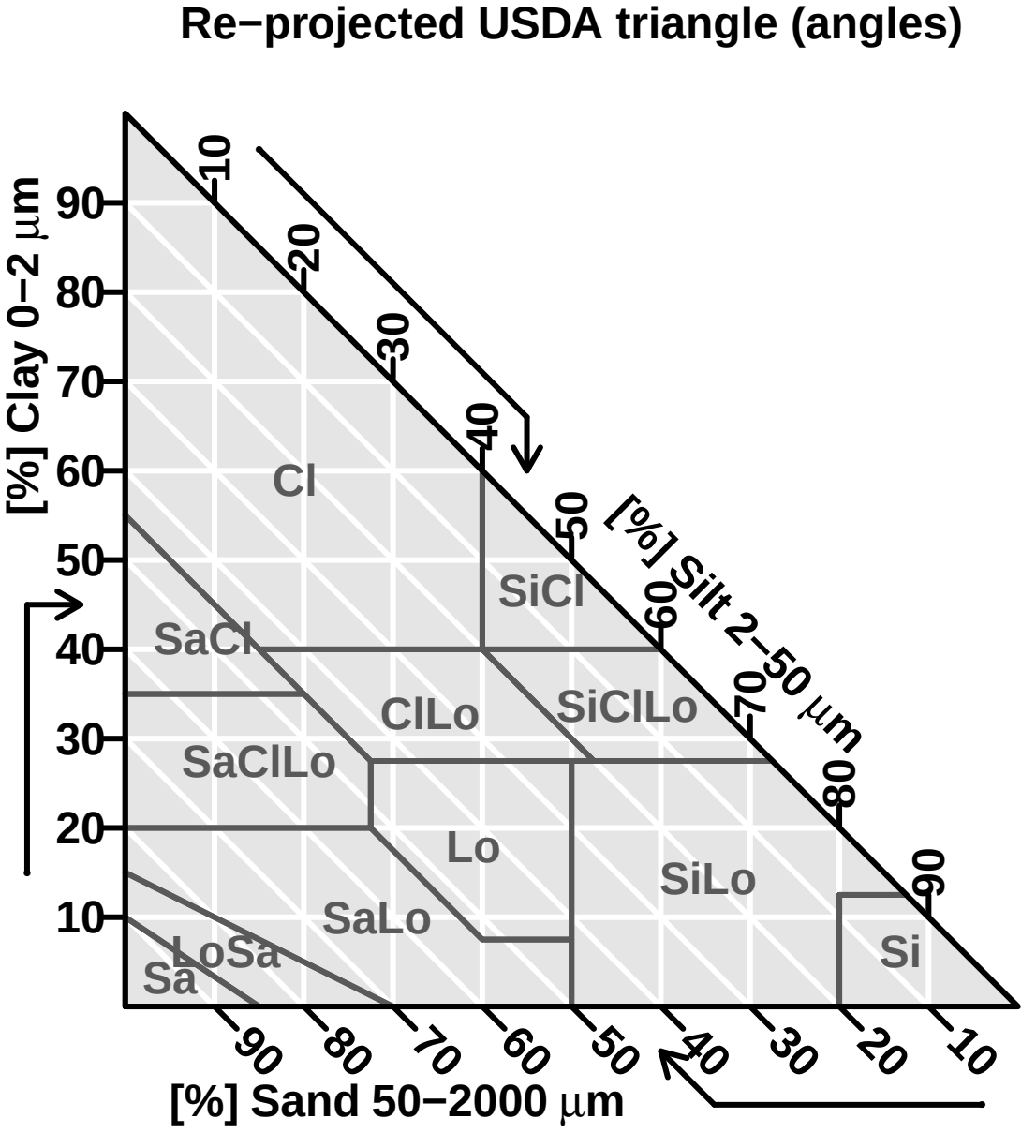


# Texture triangle: USDA

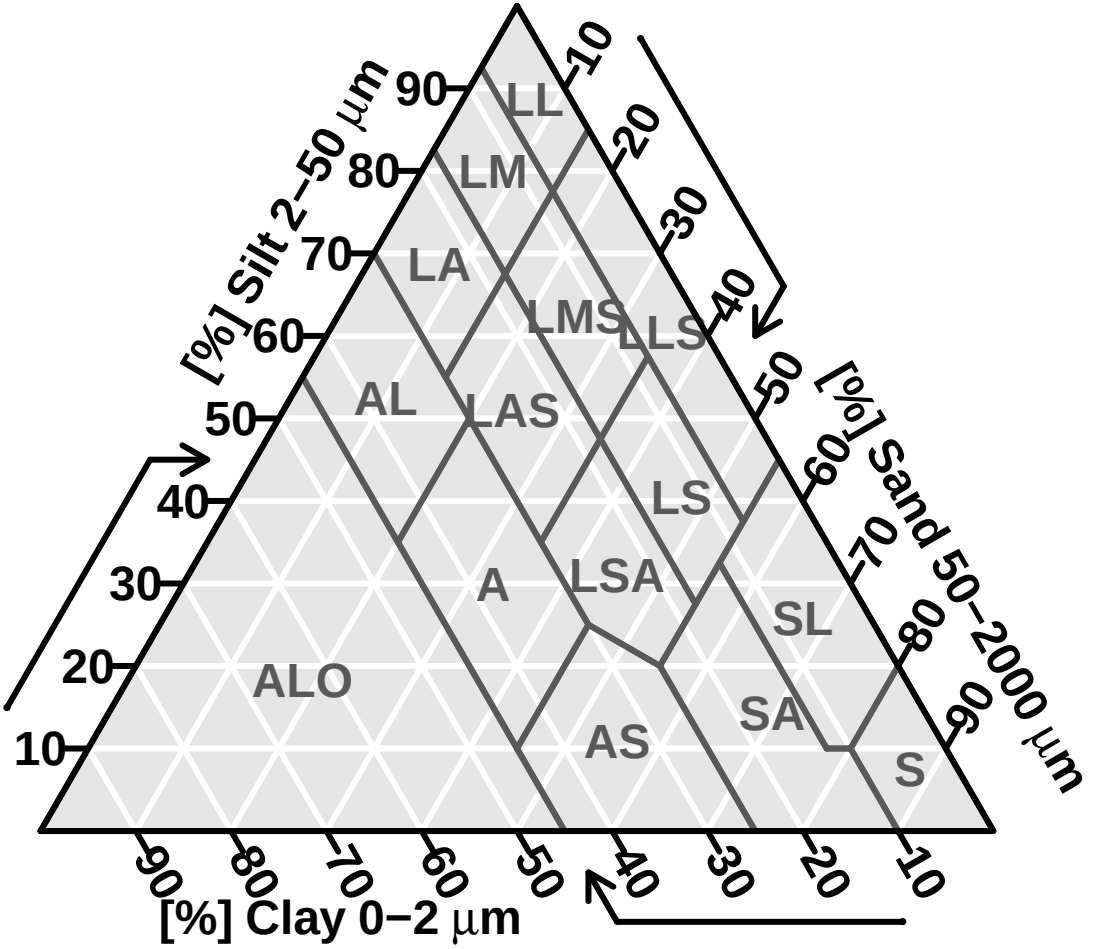


# Test of a (dummy) new transformation function

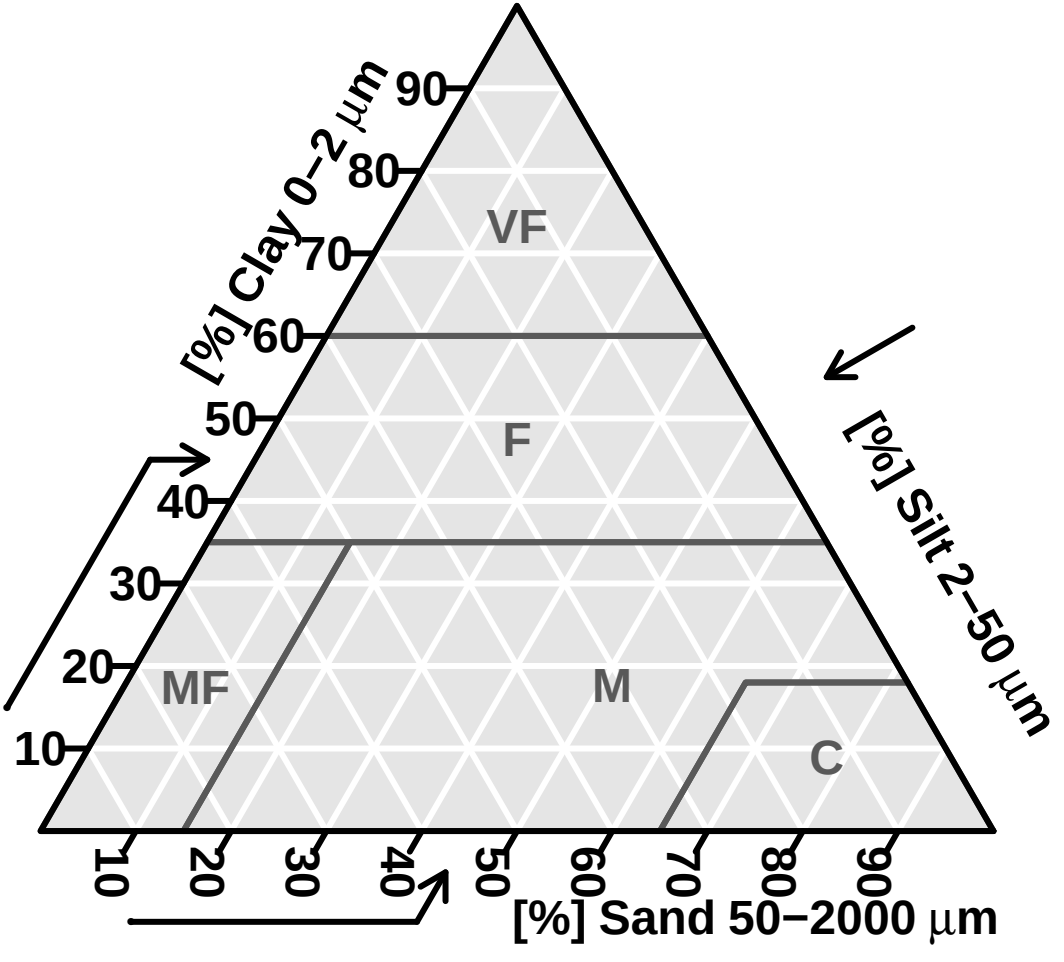



Re−projected USDA triangle (angles)
[%] Clay 0−2 μm
[%] Silt 2−50 μm
[%] Sand 50−2000 μm
Cl
SiCl
SaCl
ClLo
SiClLo
SaClLo
Lo
SiLo
SaLo
Si
LoSa
Sa

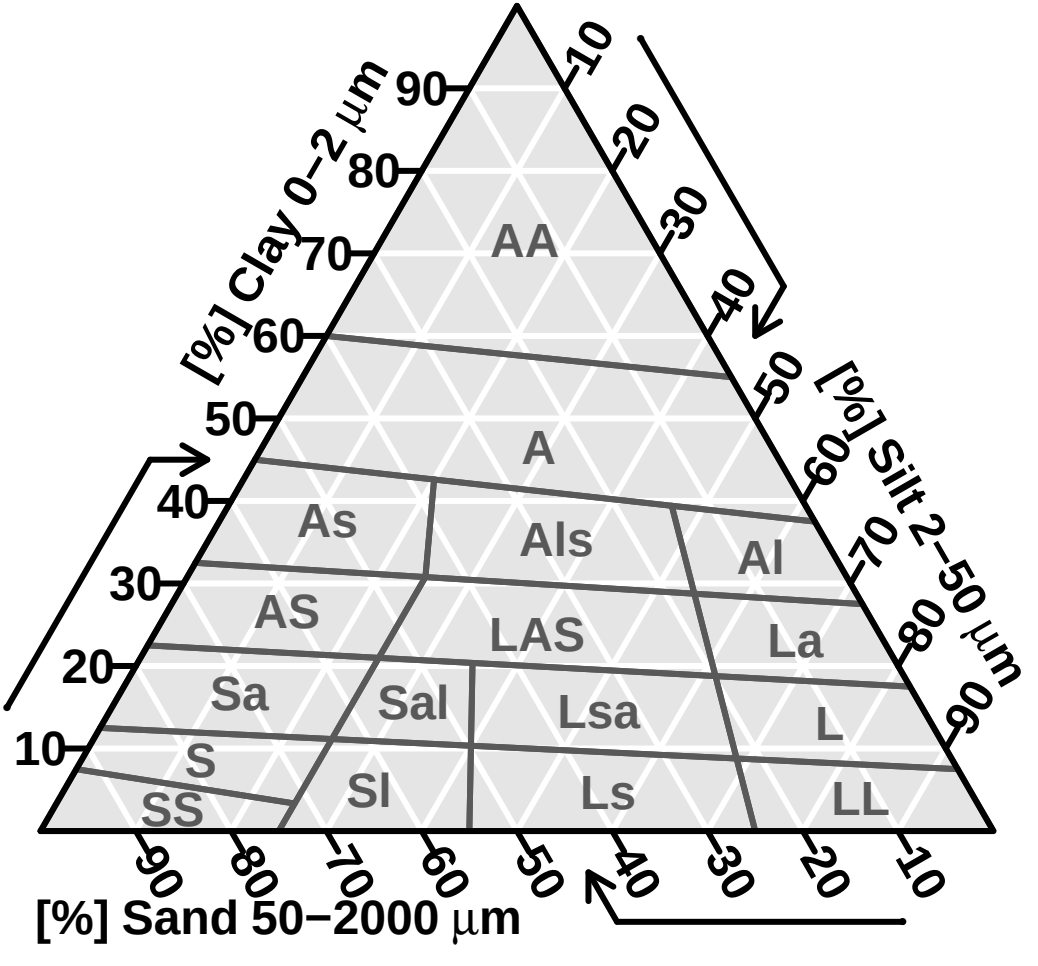
# Re−projected French Aisne triangle (axis)

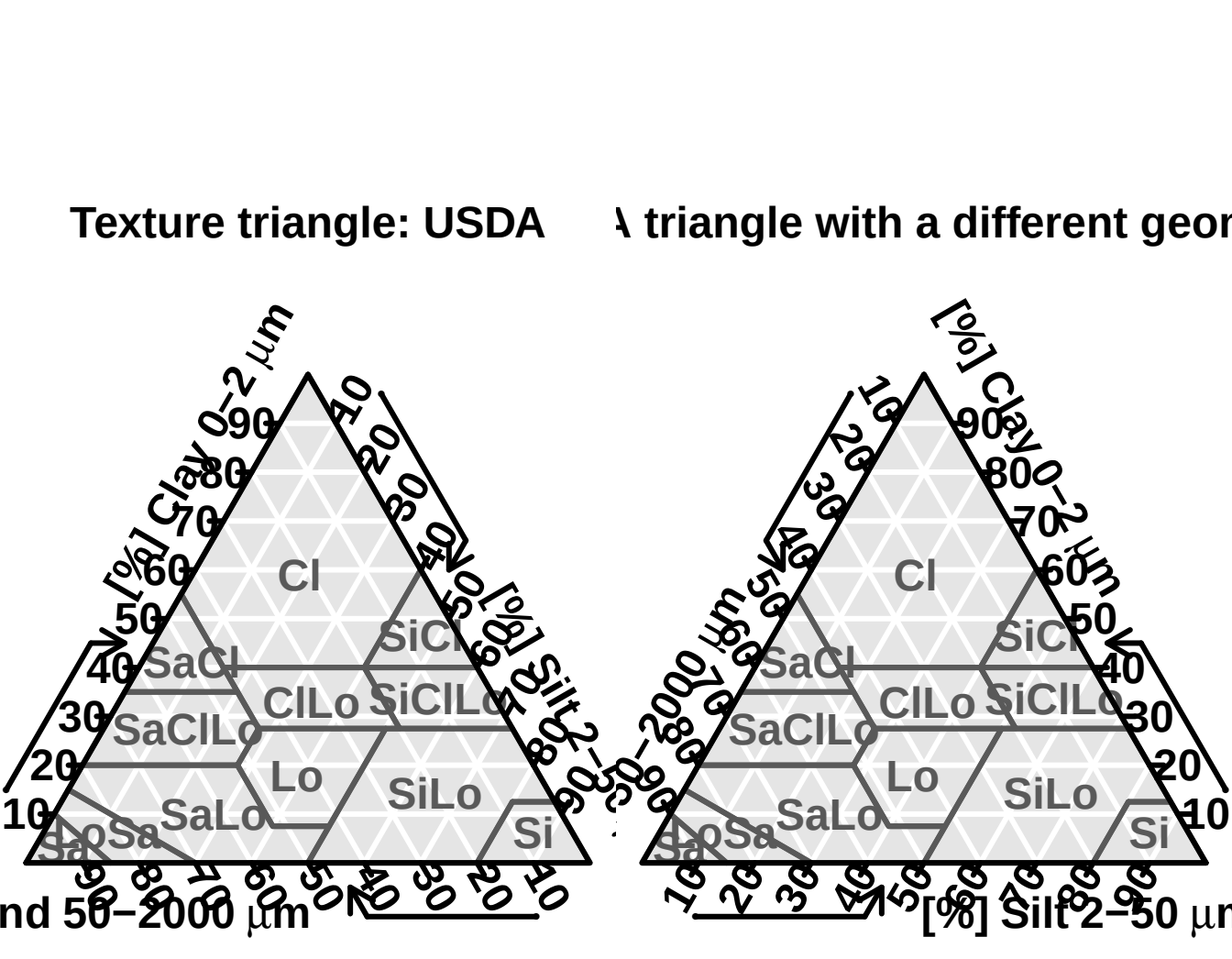


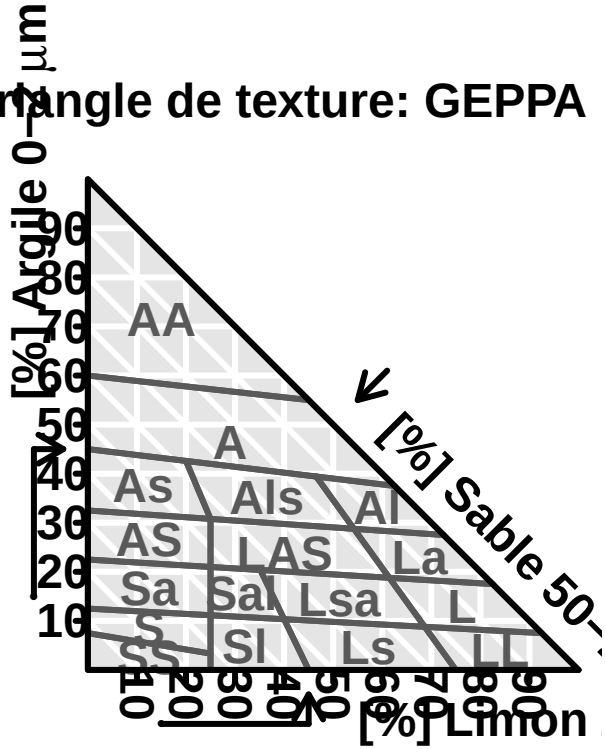
# Re−projected FAO triangle (axis directions)

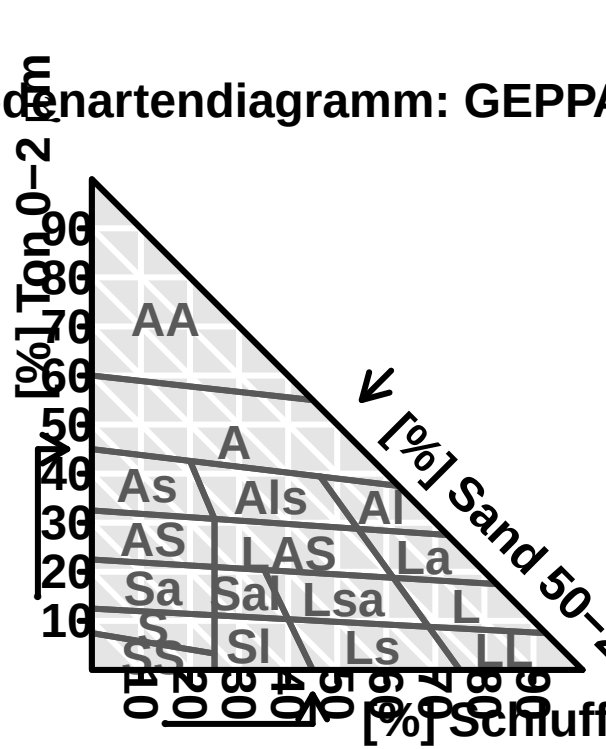


# Fully re−projected GEPPA triangle

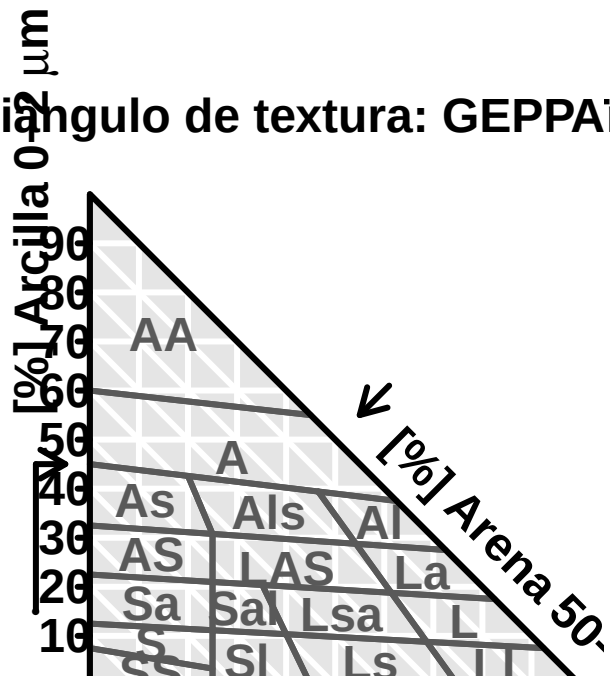



Texture triangle: USDA
A triangle with a different geor
[%] Clay 0–2 μm
[%] Silt 2–50 μm
[%] Sand 50–2000 μm
Cl
SiCl
SaCl
ClLo
SiClLo
SaClLo
Lo
SiLo
SaLo
Si
LoSa
Sa

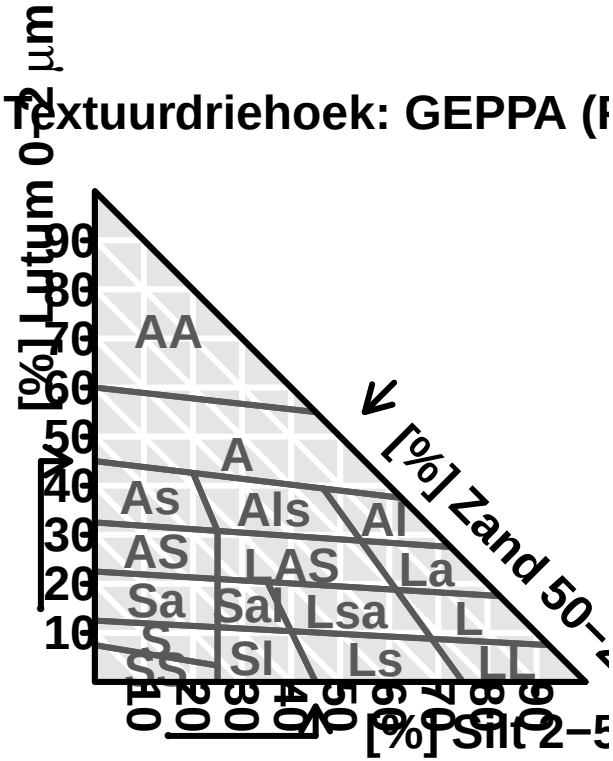

Triangle de texture: GEPPA
[%] Argile 0–2 µm
[%] Sable 50–2
[%] Limon
AA
A
As
Als
Al
AS
LAS
La
Sa
Sal
Lsa
L
S
Sl
Ls
LL
SS
90
80
70
60
50
40
30
20
10

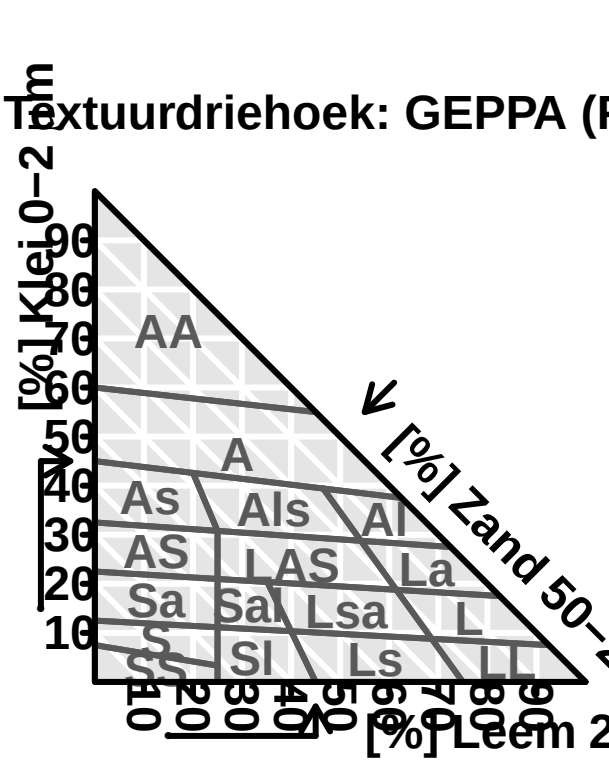

Bodenartendiagramm: GEPPA
[%] Ton 0–2 µm
[%] Sand 50–2
[%] Schluff
AA
A
As
Als
Al
AS
LAS
La
Sa
Sal
Lsa
L
S
Sl
Ls
LL
SS
90
80
70
60
50
40
30
20
10

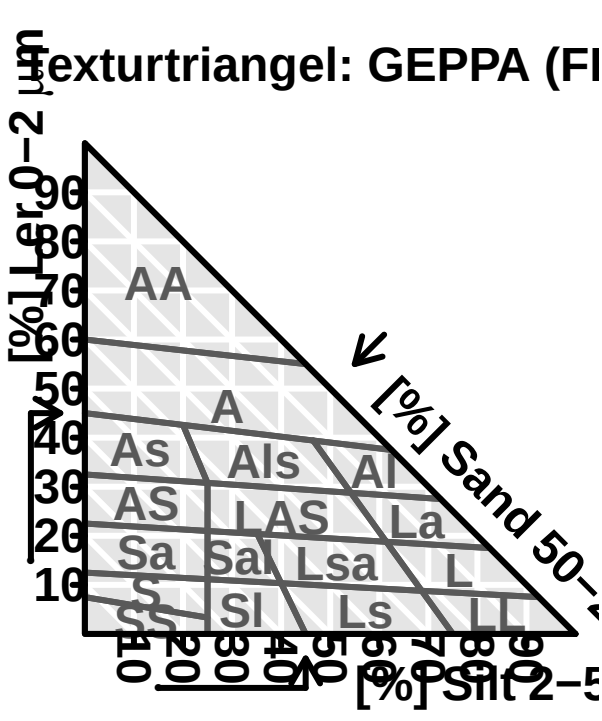
**Triangulo de textura: GEPP**

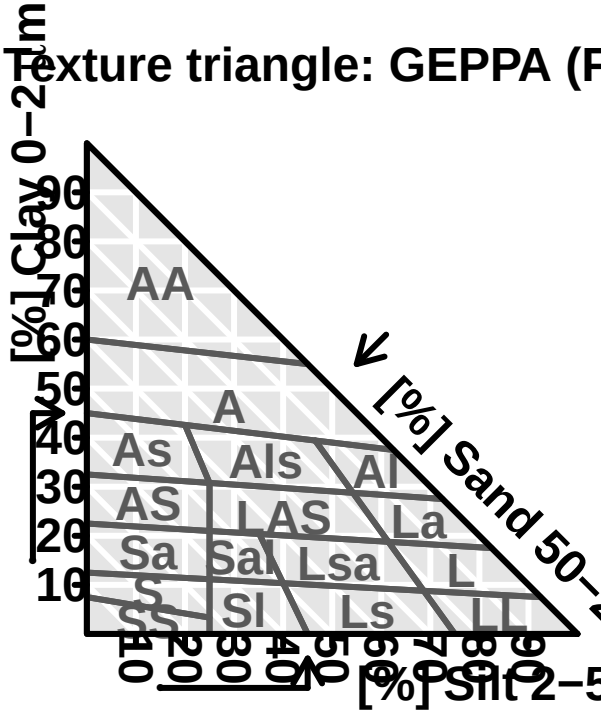



**Triangolo della tessitura: GEPP**

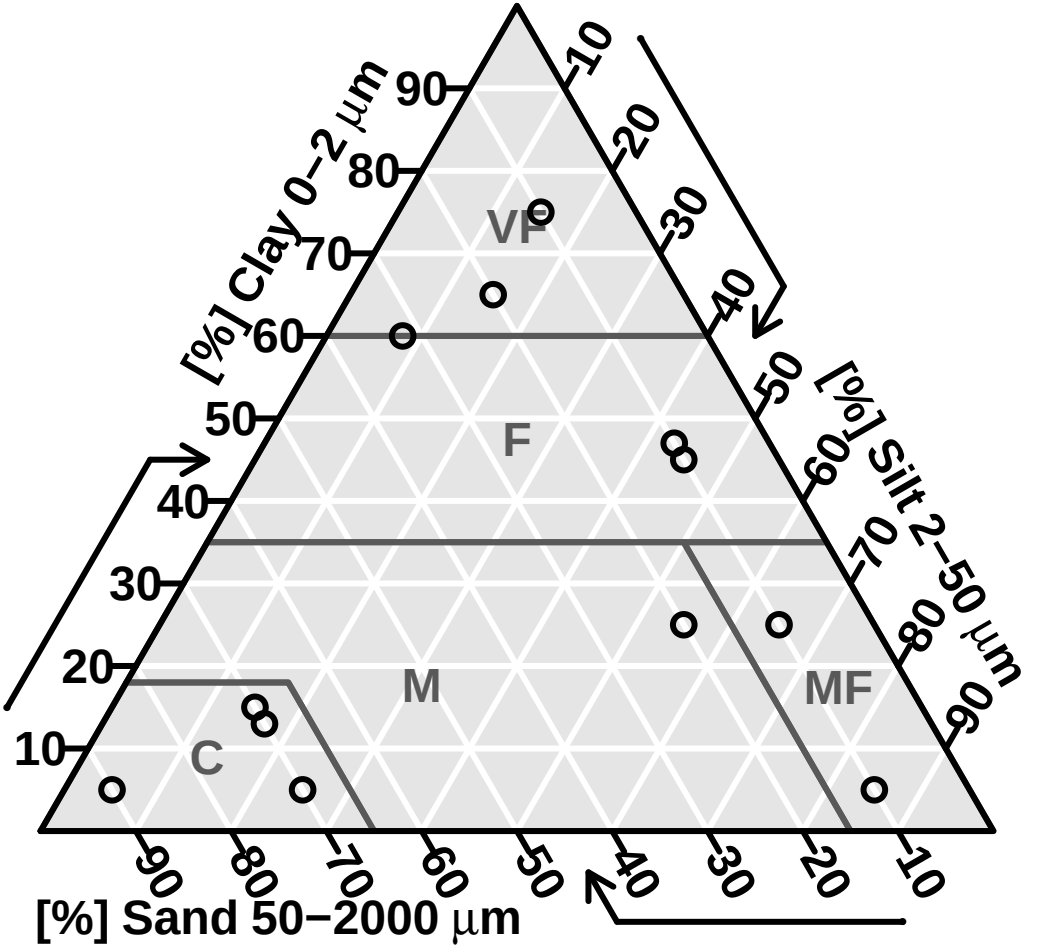

Textuurdriehoek: GEPPA (F
[%] Lutum 0–2 µm
[%] Zand 50–
[%] Silt 2–5
AA
A
As
Als
Al
AS
LAS
La
Sa
Sal
Lsa
L
S
Sl
Ls
LL
90
80
70
60
50
40
30
20
10


Textuurdriehoek: GEPPA (F
[%] Klei 0–2
[%] Zand 50–
[%] Leem 2
AA
A
As
Als
Al
AS
LAS
La
Sa
Sal
Lsa
L
S
Sl
Ls
LL
90
80
70
60
50
40
30
20
10

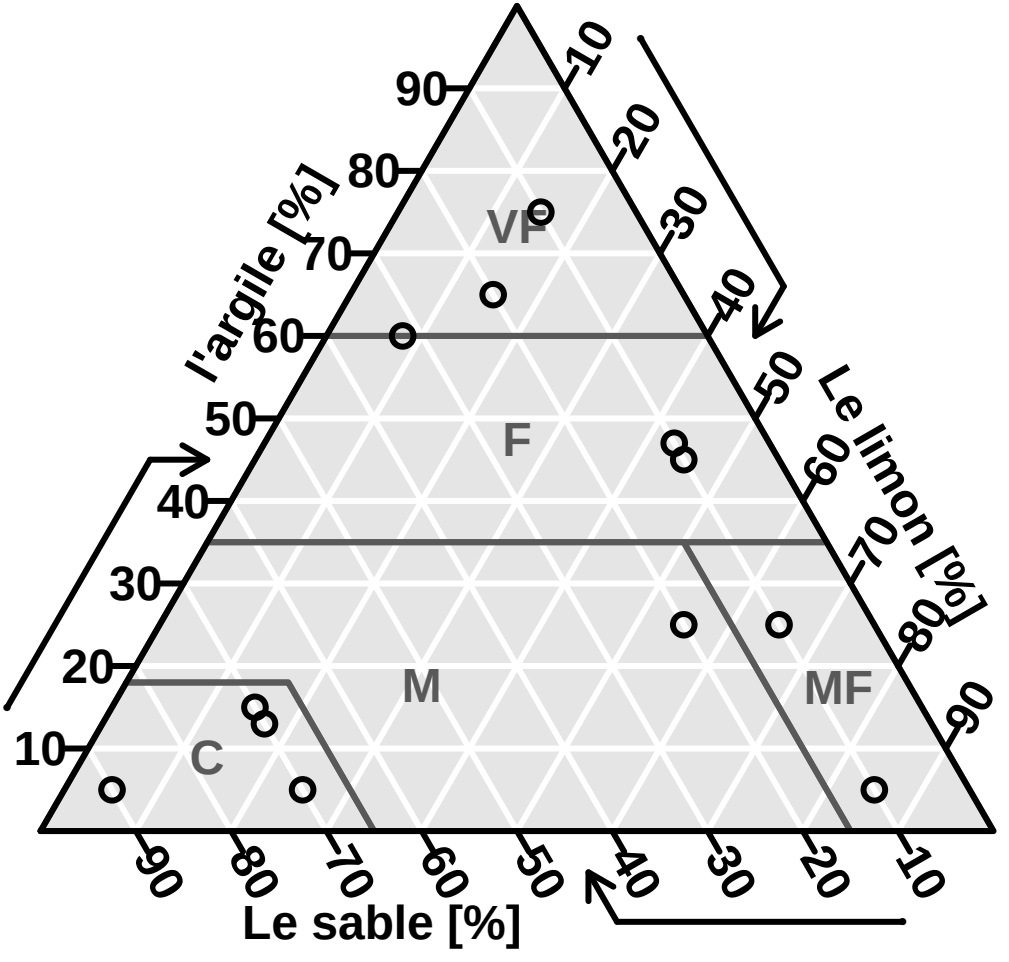

Texturtriangel: GEPPA (Fl
[%] Ler 0−2 µm
[%] Sand 50−
[%] Silt 2−5
AA
A
As
Als
Al
AS
LAS
La
Sa
Sal
Lsa
L
S
Sl
Ls
LL
SS
10
20
30
40
50
60
70
80
90


Texture triangle: GEPPA (F
[%] Clay 0−2 µm
[%] Sand 50−
[%] Silt 2−5
AA
A
As
Als
Al
AS
LAS
La
Sa
Sal
Lsa
L
S
Sl
Ls
LL
SS
10
20
30
40
50
60
70
80
90

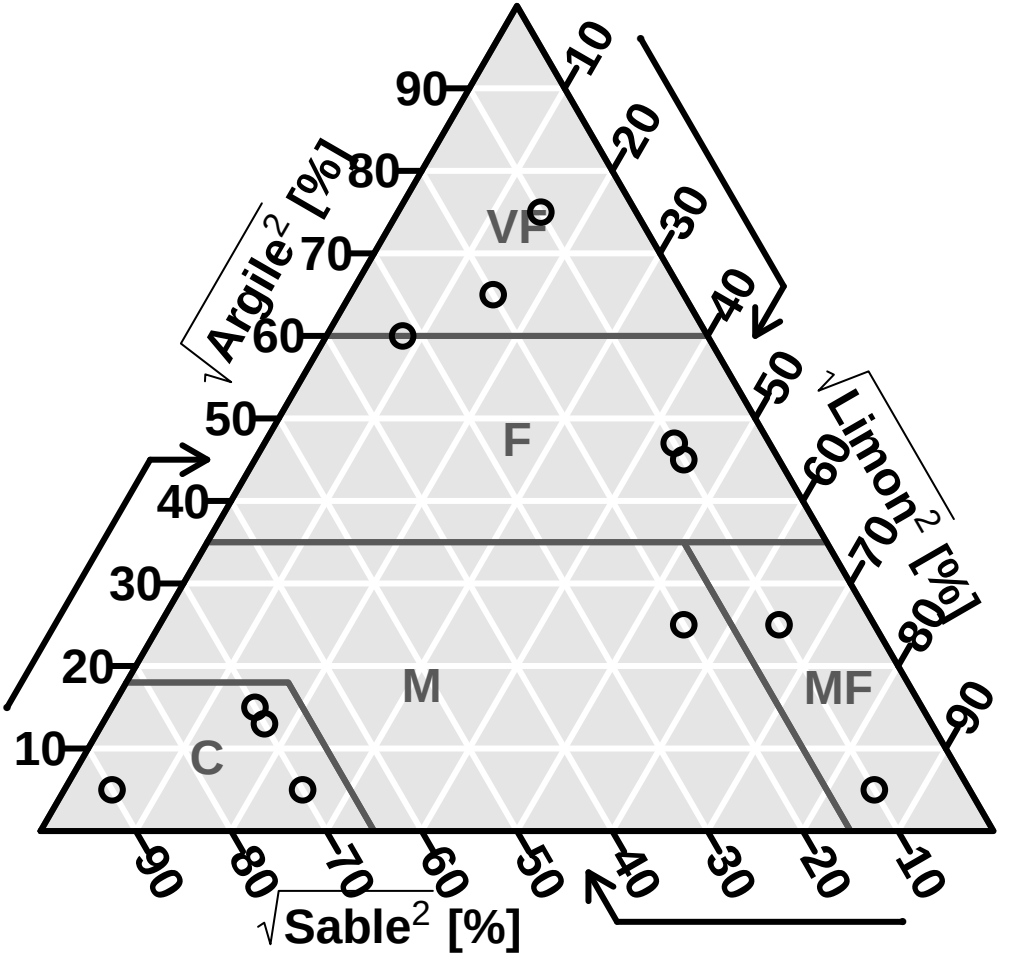
# Texture triangle: FAO/HYPRES



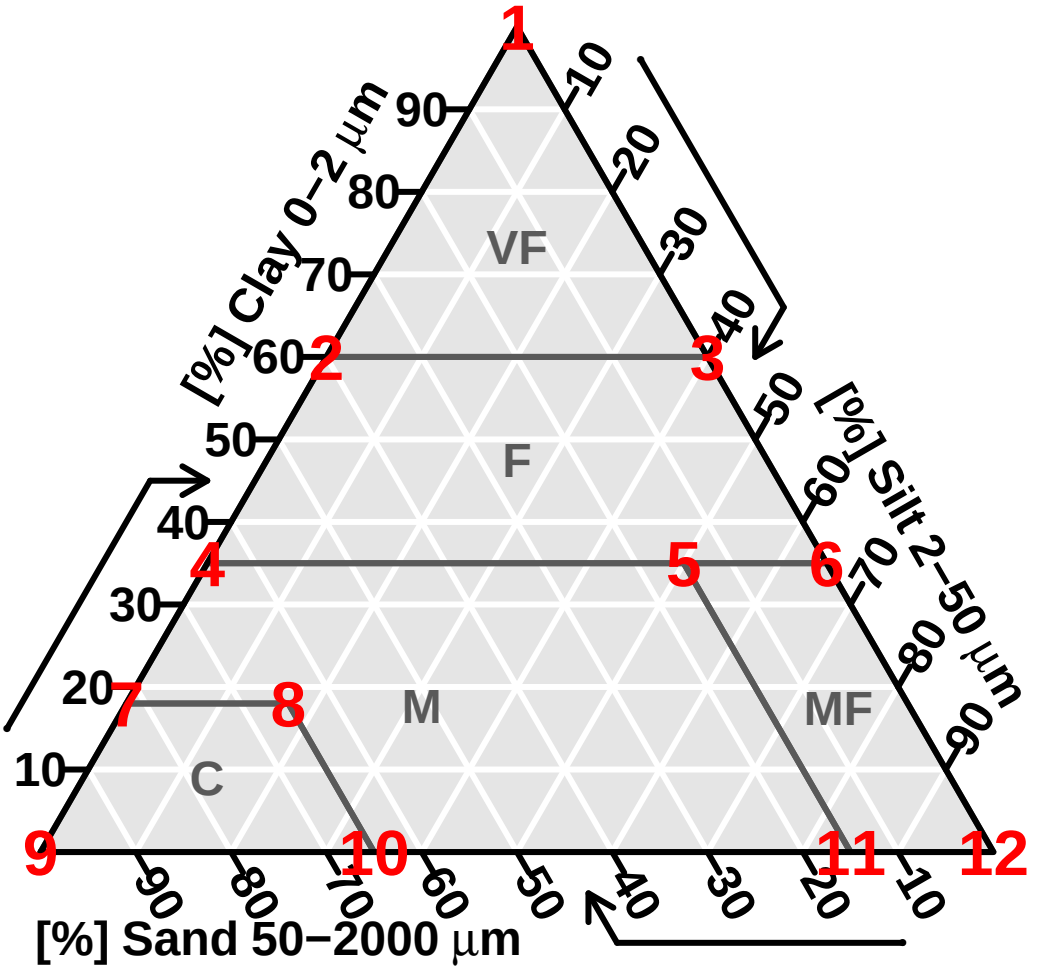
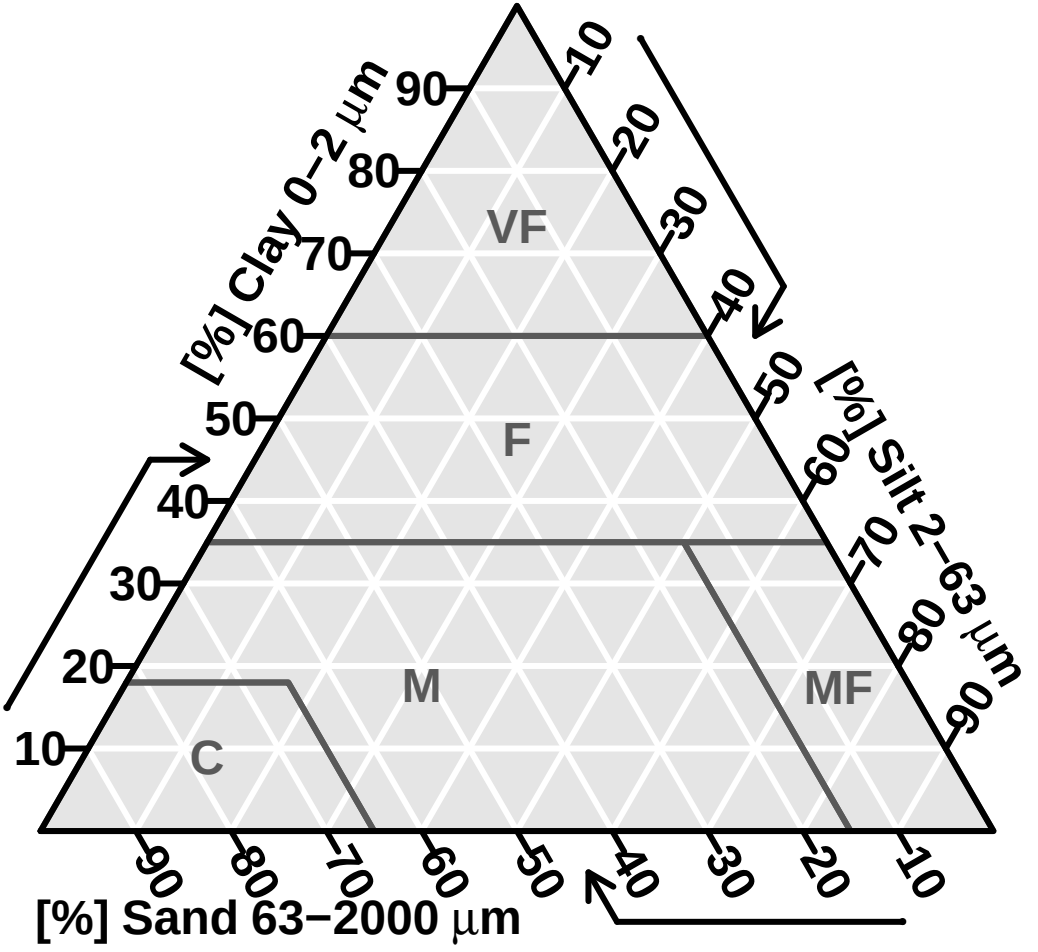
# A texture triangle with (dummy) custom axis names



# A texture triangle with (dummy) custom axis names



# Vertices numbers. USDA texture triangle



# Modified FAO soil texture triangle