

FRACIONAMENTO FÍSICO DA MOS

- **Densimétrico** (líquidos dens. 1,6 a 2,0)
- **Granulométrico** (tamisagem)

SOLO SECO AO AR
< 2000 μm

DISPERSÃO EM ÁGUA
AGITAÇÃO 1 HORA

ULTRASOM

EM SUSPENSÃO

FO 2000-200 μm

FM 2000-200 μm

ULTRASOM

FOM 200-50 μm

SÓLIDOS

FOM1 < 50 μm

FOM2 < 50 μm

SOBRENADANTE

PENEIRA
200 μm

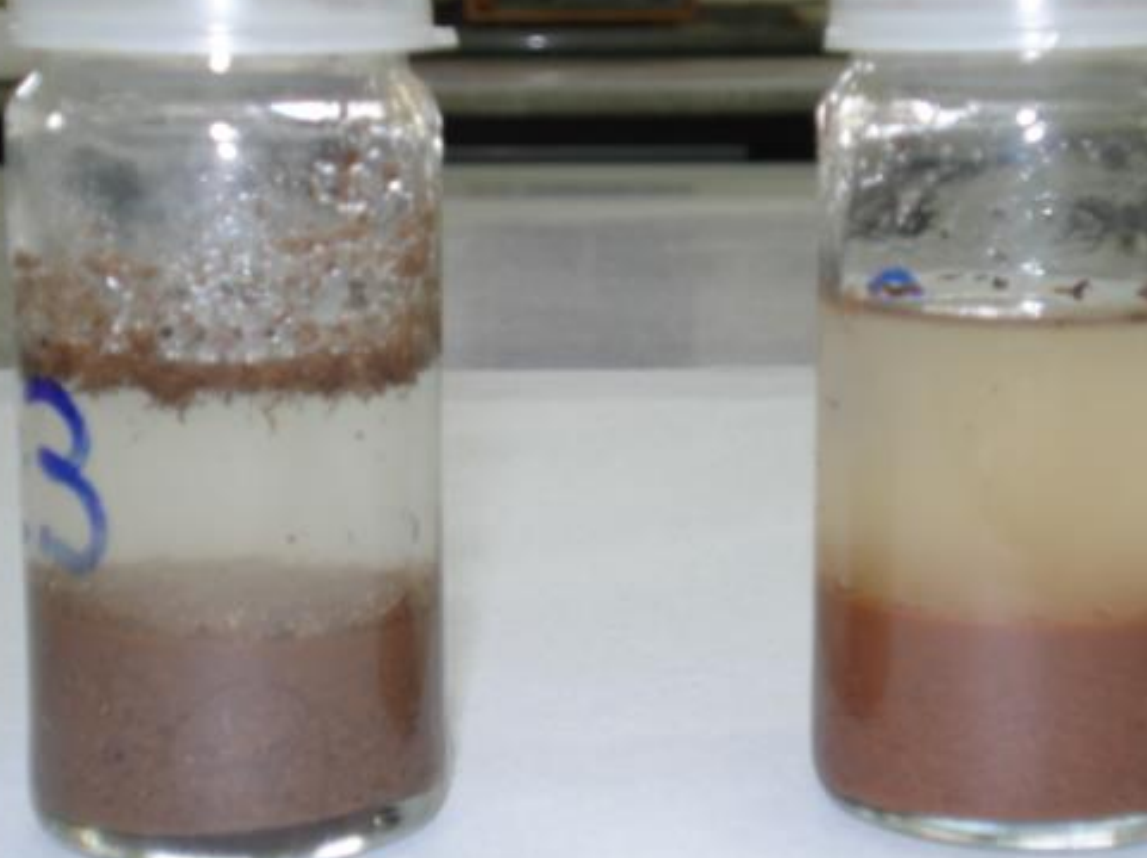
PENEIRA
50 μm



Fracionamento Físico da MOS



The chemical structure shows a complex molecule with multiple aromatic rings connected by ether and carbon-carbon bonds. It features several hydroxyl (-OH) groups, some as free hydroxyls and others as part of ester or ether linkages. A long alkyl chain is attached to one of the rings. The structure is highly branched and contains various functional groups including hydroxyl, ether, and carbonyl groups.

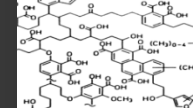


Cerrado

Agricultura

Agricultura

Fracionamento físico da MOS

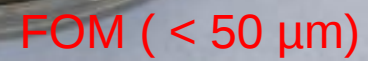
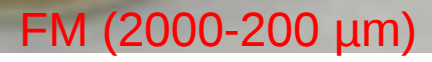


Ultrasom



Jogo peneiras + borrifador

The chemical structure shows a complex molecule with multiple aromatic rings, hydroxyl groups, and ether linkages. It appears to be a derivative of a natural product, possibly a lignan or stilbenoid, with various functional groups including hydroxyl, ether, and carbonyl groups. The structure is highly branched and contains several chiral centers.

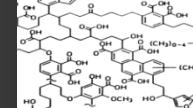




Teores de C (%)

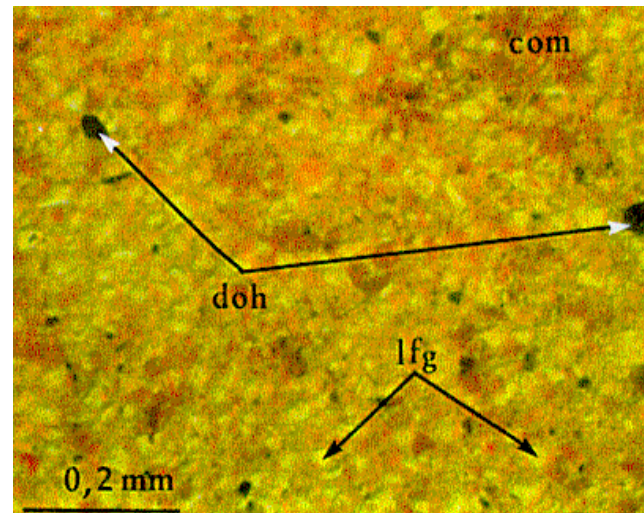
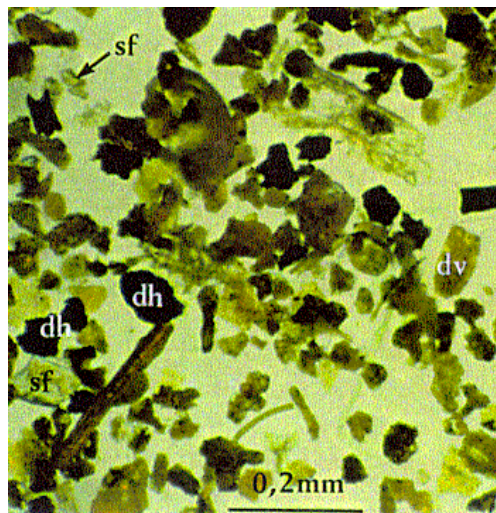
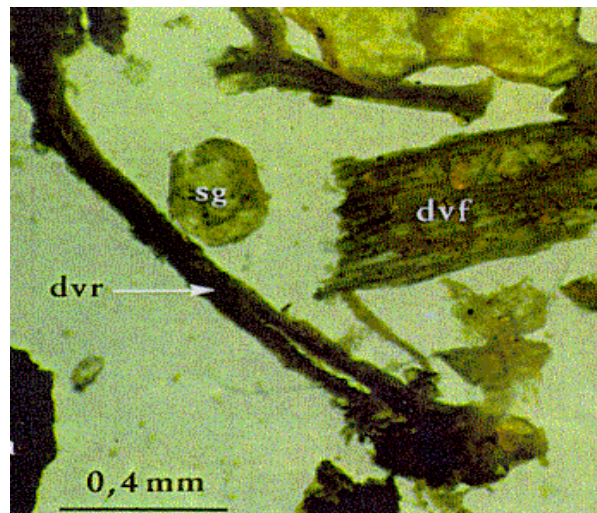
Sinal isotópico $\delta^{13}\text{C}$ (‰)



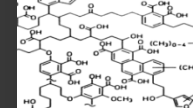


Componentes da Matéria Orgânica do Solo

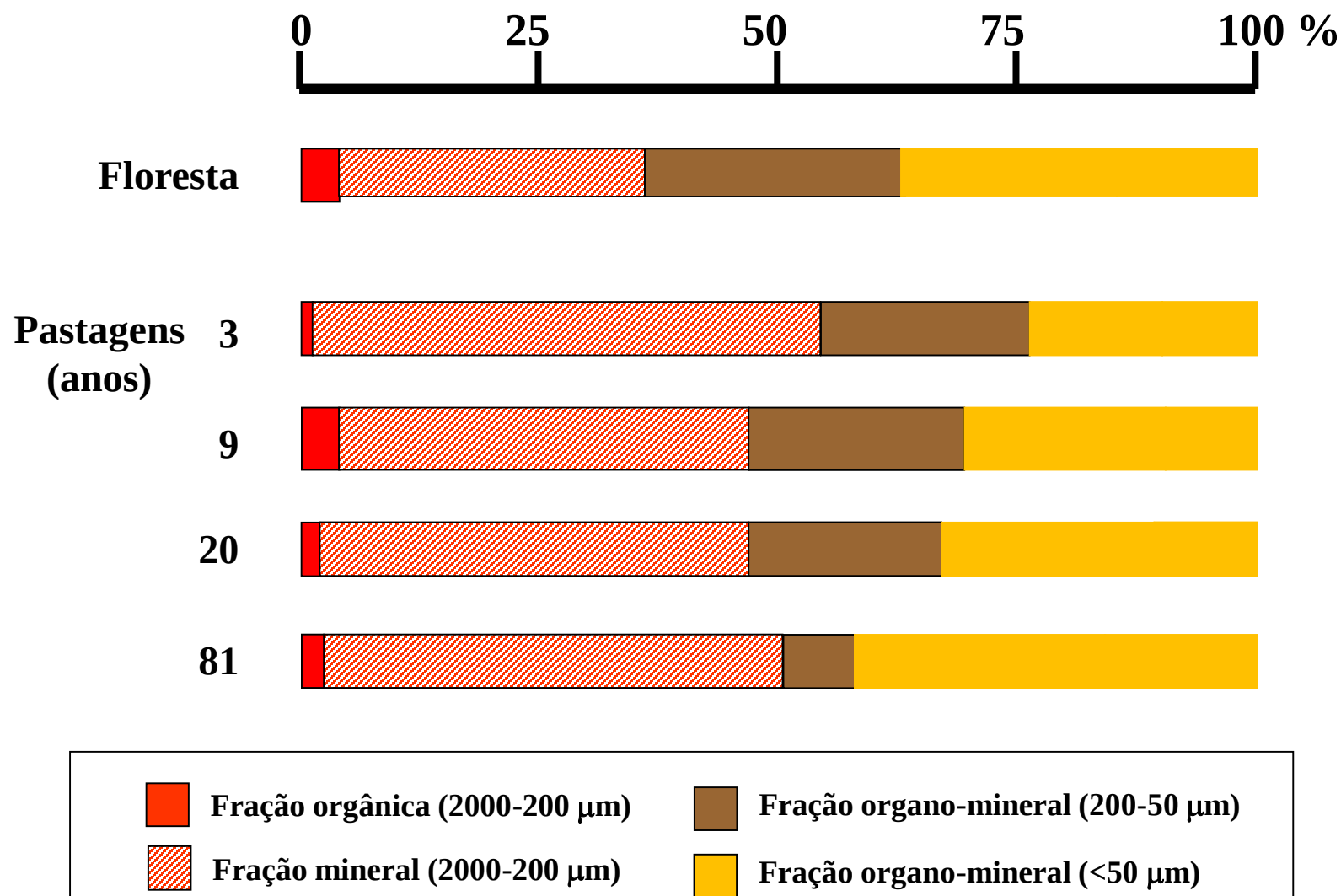
Frações Granulométricas

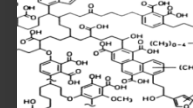


Tamanho (μm)	200-2000	50-200	20-50	2-20	0-2
C/N	26	21	16	13	9
Xilose/Manose	4,7	3,4	1,8	0,8	0,5
$t_{1/2}$ (ano)	8		18		22

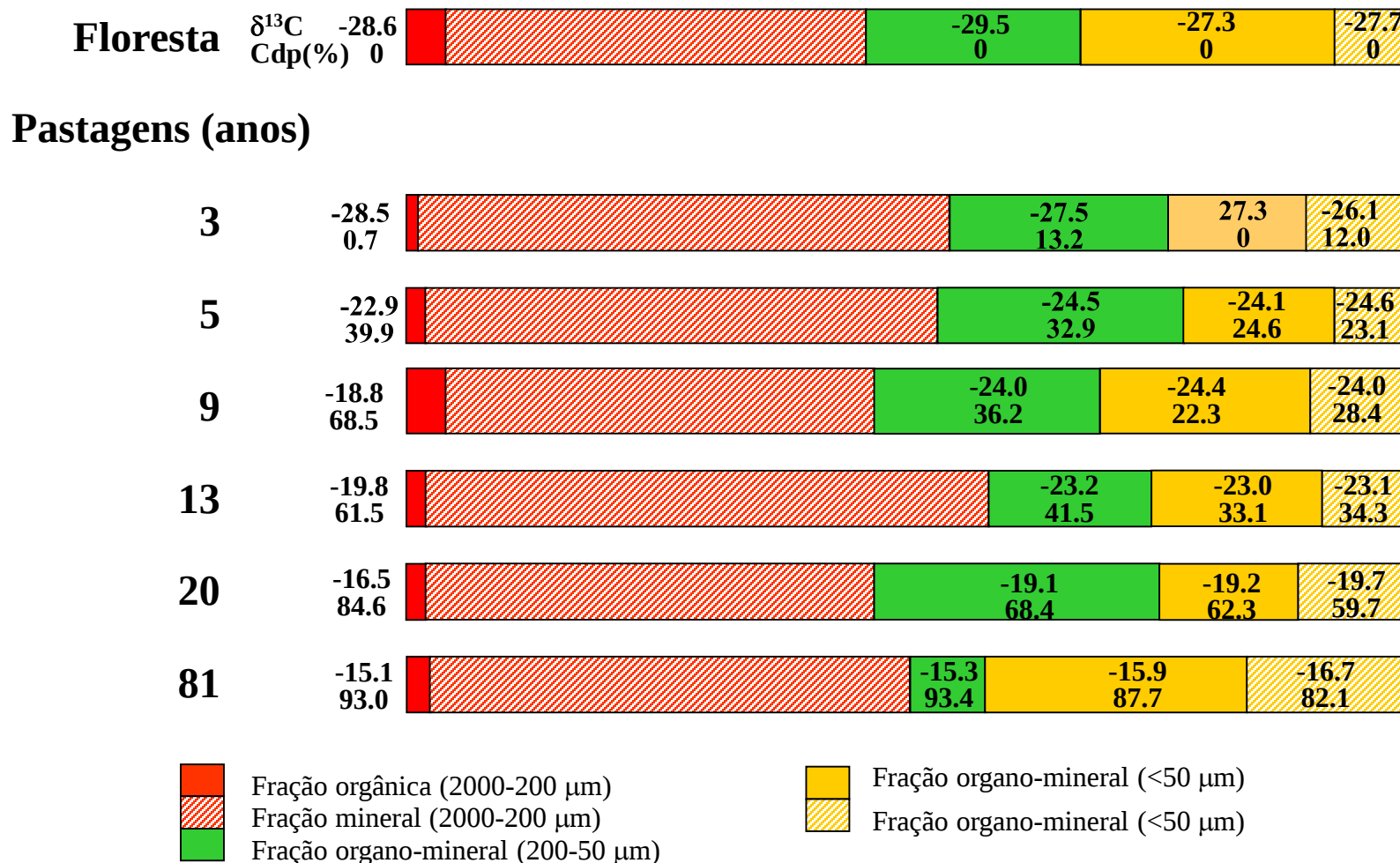


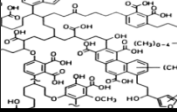
Fracionamento granulométrico



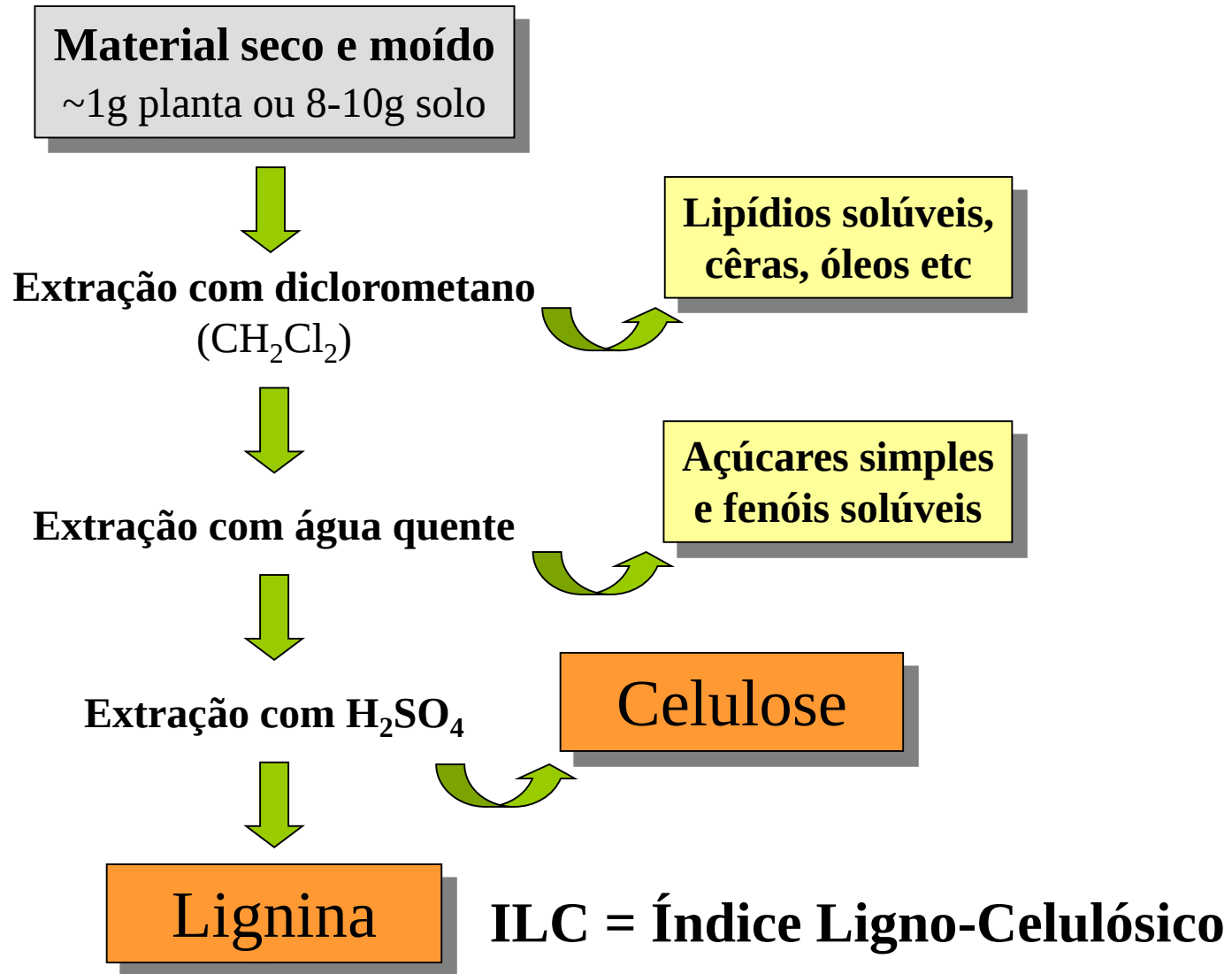


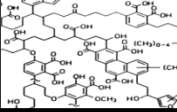
Distribuição relativa das frações granulométricas e seus respectivos $\delta^{13}\text{C}$ e Cdp (%)





Sequência de extrações de constituintes vegetais





MODELO DE TRANSFORMAÇÃO DA SERAPILHEIRA EM HUMUS

Liteira



Humus

Alta qualidade

ILC baixo

~ 0,2



Qualidade média

ILC intermediário

~ 0,4



Filtro de
decaimento



ILC
~ 0,7-0,8

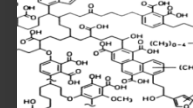
Baixa qualidade

ILC alto

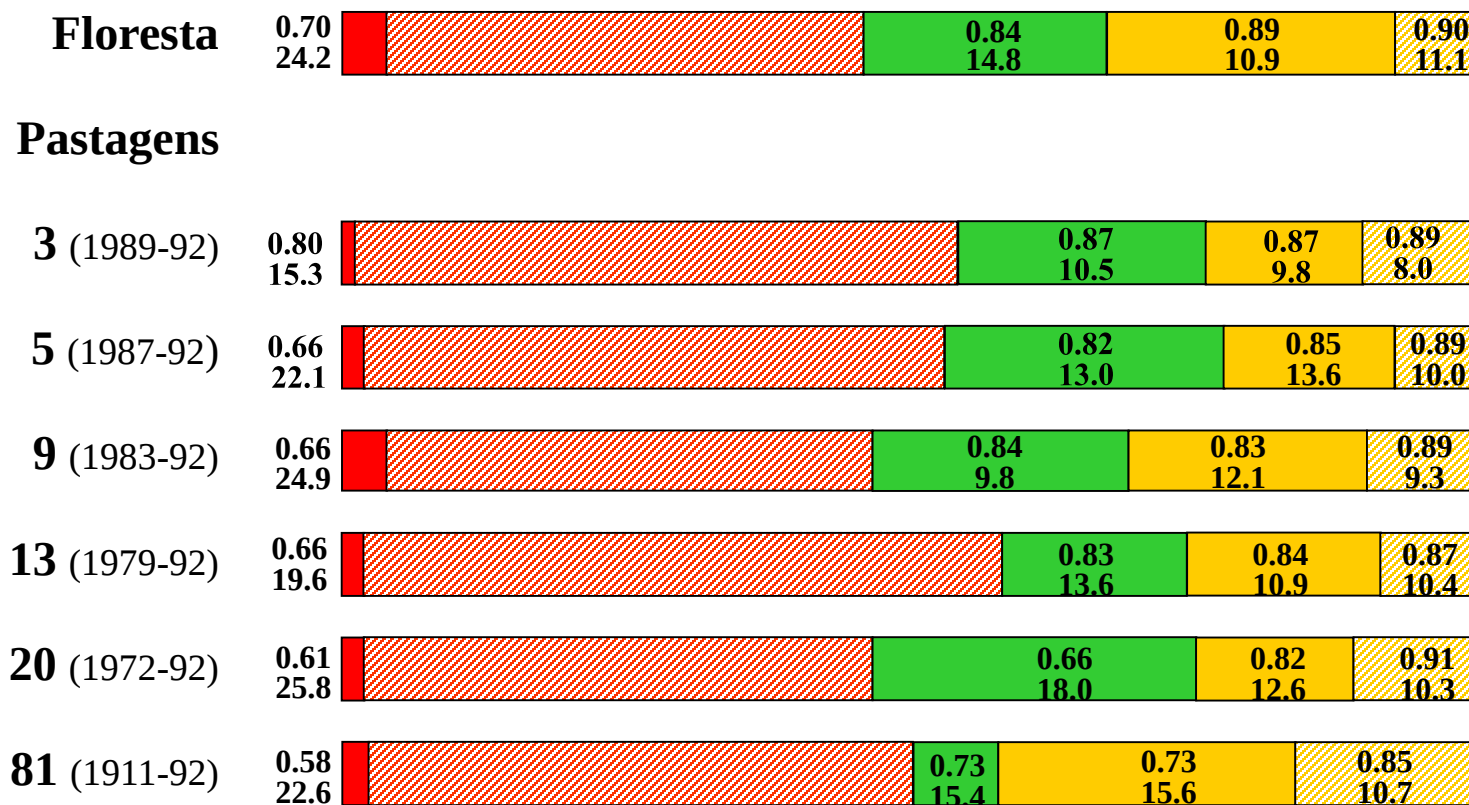
~ 0,6



$$\text{ILC} = \frac{\text{lignina}}{\text{lignina} + \text{celulose}}$$



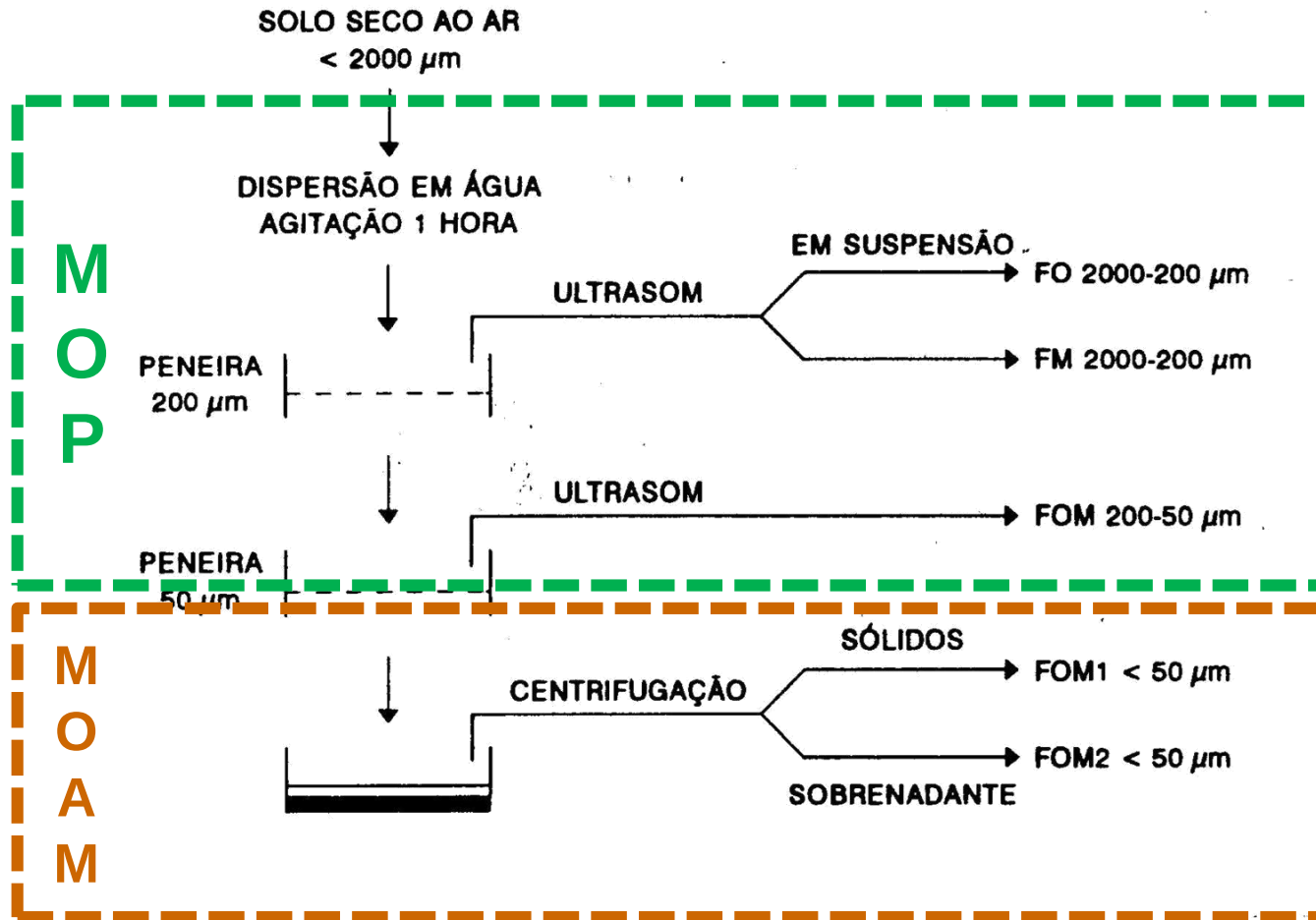
Distribuição relativa das frações granulométricas e seus respectivos índices ligno-celulósicos e relações C/N



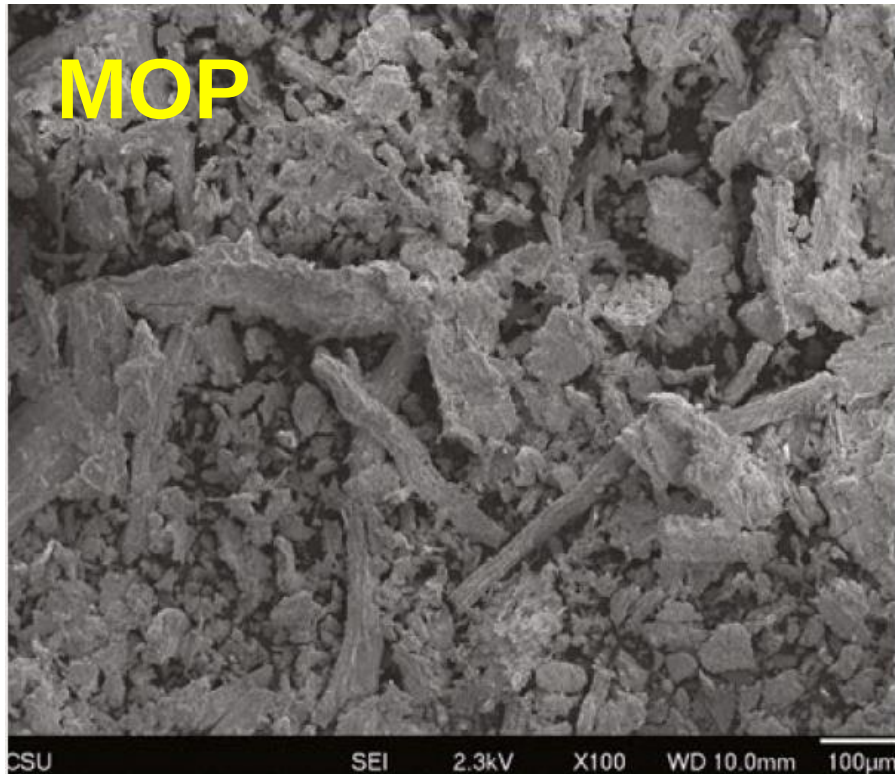
 Fração Orgânica (2000-200 µm)
 Fração Mineral (2000-200 µm)
 Fração organo-mineral (200-50 µm)

 Fração organo-mineral (<50 µm)
 Fração organo-mineral (<50 µm)

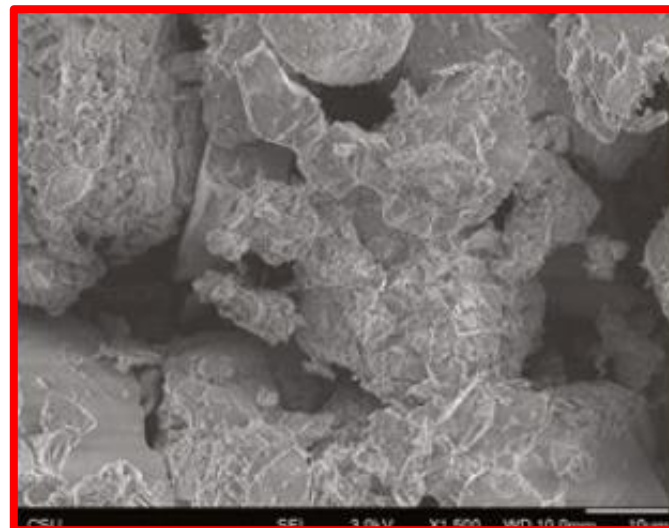
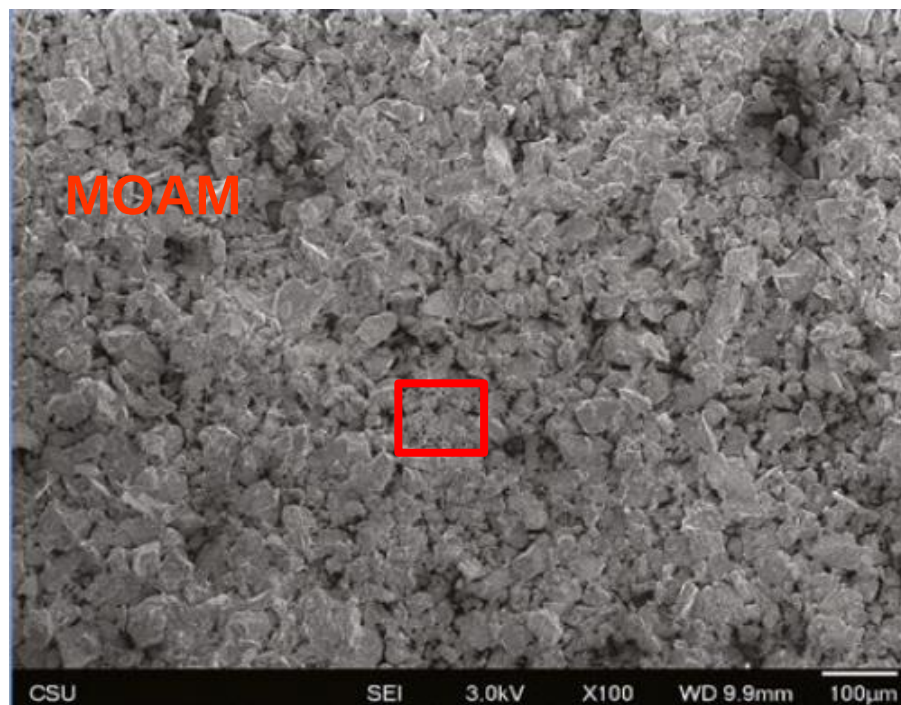
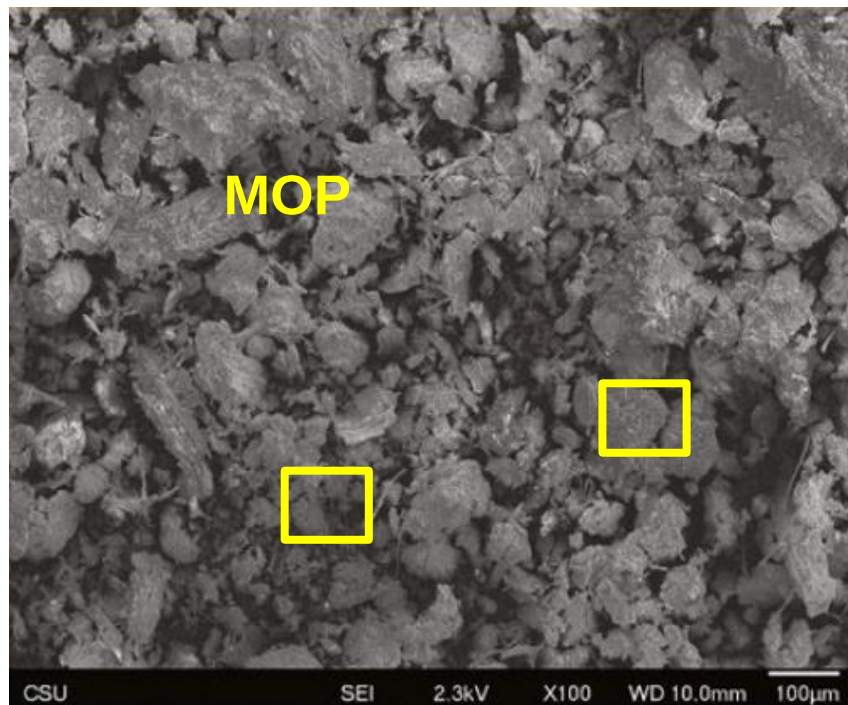
Fracionamento físico granulométrico

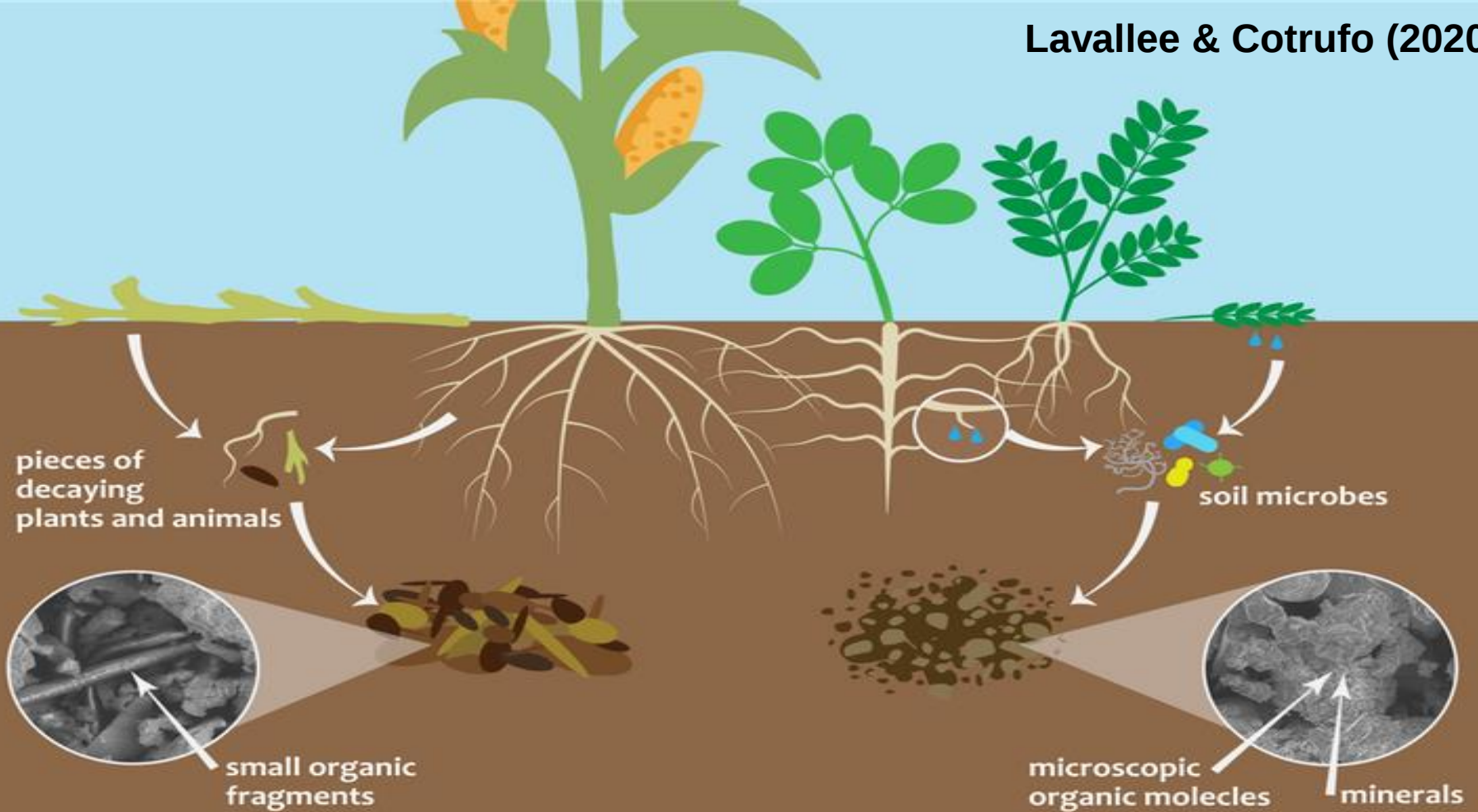


Dinâmica da Matéria Orgânica do Solo



Microscopia Eletrônica de Varredura (Lavallee et al. (2019))





particulate organic matter

lifetime
= 1-50
years



carbon
nitrogen

mineral-associated organic matter

lifetime
= 10-1000
years

slow
cycling

carbon
nitrogen