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CHARACTERIZATION OF LIVE OLIGOTROPHIC PEATS IN SWISS JURA. REPRESENTATIVES OF A DYNAMICS OF THE VEGETATION

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This study presents a few results of physico-chemical analyses done on different oligotrophic peats from the Swiss Jura Mountains.

The metholds used are the following ones (fig. 1) :

— granulometric wet sieving at 2000, 200 and 50 µm (Results in tabl. II)

— measure of the fiber content and the pyrophosphate index (fig. 2)

Table IV : Biochemical analysis of the granulometric fractions (choice of 16 samples).

ECH.	PROF. (cm)	FRACTION	GROUPEMENT VEGETAL	C org. (%)	Taux d'extraction (%)	Rapport AF/AH	Rapport H/C des AH
A0	+5-0	---	Cariçaie	42,0	8,0	1,1	nd
A2	4-12	> 2mm		45,1	6,3	1,9	nd
		2 à 0,2		43,4	4,5	1,8	1,39
		0,2-0,05		45,2	6,1	1,9	nd
C0	+5-0	---	Pinède	45,9	8,6	0,7	nd
C2	3-7	> 2mm		49,7	8,1	1,1	nd
		2 à 0,2		50,1	7,0	1,1	1,35
		0,2-0,05		48,5	6,9	1,0	nd
		< 0,05		50,7	11,2	0,7	1,35
C3	7-12	> 2mm	Pinède	49,1	7,7	0,7	nd
		2 à 0,2		46,6	7,3	0,7	nd
		0,2-0,05		47,6	10,1	0,5	nd
		< 0,05		45,7	11,6	0,3	1,16
E1	0-3	2 à 0,2	Lande	48,6	12,2	0,3	1,11
		0,2-0,05		50,3	10,6	0,4	nd
		< 0,05		47,2	12,4	0,3	1,15

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— micromorphological observations (tabl. III)

— alcaline extraction with NaOH at pH = 10 ; determination of the « fulvic acids/ humic acids ratio » ; summary characterization of the humic acids (tabl. IV).

The material was chosen according to the vegetation's dynamics, and concerns the following vegetal associations : *A. Sphagno recurvi - Caricetum rostratae* (young peat) ; B. *Sphagnetum magellanici* (evolved peat) C. *Pino mugno - Sphagnetum* (climatic peat) ; D. *Sphagno-Piceetum* (peat with rough humus) ; E. *Calluna* heath (bare degraded peat) (tabl. I).

The results show a clear connection between the vegetation's and the peat's evolution, all the measured parameters varying parallely from the association A to the association E.

For example :

— the fiber content, droping from 99 % to 41,5 %

— the pyrophosphate index, increasing from 3,7 to 20,7

— the extraction ratio (NaOH), increasing from 4,5 to 12,4

— the FA/HA ratio, decreasing from 1,9 to 0,3.

The humic acid's infrared spectrum brought concordant information.

With the purpose of protecting moor swamps, the evolution, caused by human action, of a natural climatic peat to a degraded peat (*Calluna* heath) is discussed in detail. The latter, althrough it acquires " evolved " features, shows itself to be more unfavorable to the vegetation than an intact fibric peat.

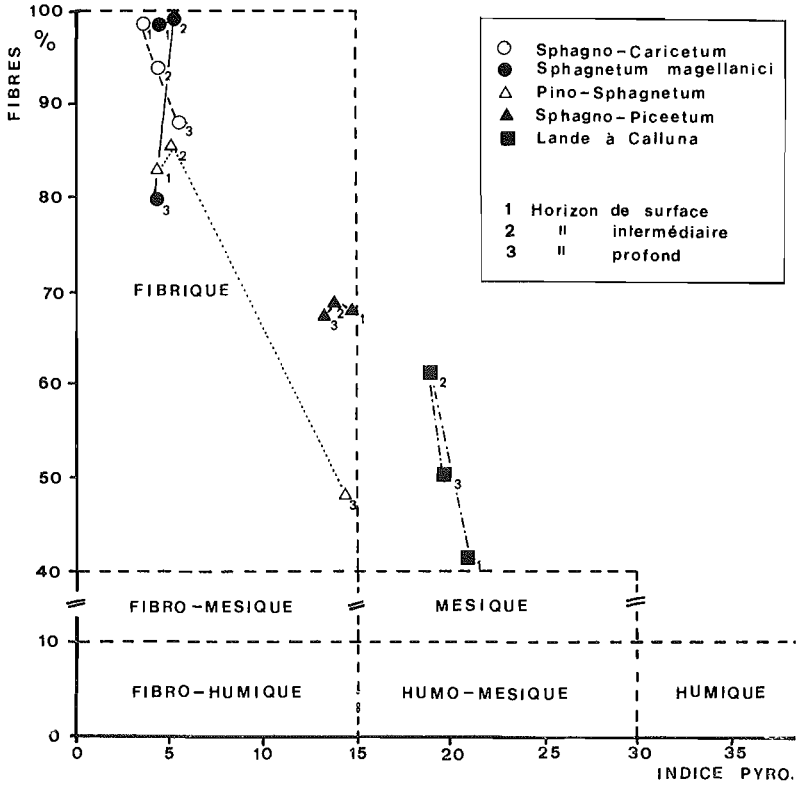

Figure 2 : Classification of the horizons, according to the fiber content and the pyrophosphate index.