

EXTRACTION METHODS REFERENCES
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- Achard, F.K. 1786. Chemische Untersuchung des Torfs. *Crell's Chem. Ann.* 2:391-403.
- Bremner, J.M., and H. Lees. 1949. Studies of soil organic matter: II. The extraction of organic matter from soil by neutral reagents. *J. Agric. Sci.* 39:274-279.
- Stevenson, F.J. 1965. Gross chemical fractionation of organic matter. p. 1409-1421. *In* C.A. Black et al. (ed.). *Methods of soil analysis*. American Society of Agronomy, Madison, WI.
- Schnitzer, M., and S.I.M. Skinner. 1968. Alkali versus acid extraction of soil organic matter. *Soil Sci.* 105:392-396.
- Hayes, M.H.B., and R.S. Swift. 1978. The chemistry of soil organic colloids. p. 169-320. *In* D.J. Greenland and M.H.B. Hayes (ed.). *The chemistry of soil constituents*. John Wiley & Sons, Chichester, UK.
- Thurman, E.M., and R.L. Malcolm. 1981. Preparative isolation of aquatic humic substances. *Environ. Sci. Technol.* 15:463-466.
- Aiken, G.R. 1985. Isolation and concentration techniques for aquatic humic substances. p. 363-385. *In* G.R. Aiken et al. (ed.). *Humic substances in soil, sediment, and water: Geochemistry, isolation and characterization*. Wiley-Interscience, New York.
- Hayes, M.H.B. 1985. Extraction of humic substances from soil. p. 329-362. *In* G. Aiken et al. (ed.). *Humic substances in soil, sediment, and water: Geochemistry, isolation and characterization*. Wiley, New York.
- Leenheer, J.A. 1985. Fractionation techniques for aquatic humic substances. p. 409-429. *In* G.R. Aiken et al. (ed.). *Humic substances in soil, sediment, and water: Geochemistry, isolation and characterization*. Wiley-Interscience, New York.
- Rice, J.A., and P. MacCarthy. 1988. Comments on the literature of the humin fraction of humus. *Geoderma* 43:65-73.
- Malcolm, R.L., and P. MacCarthy. 1992. Quantitative evaluation of XAD-8 and XAD-4 resins used in tandem for removing organic solutes from water. *Environ. Int.* 18:597-607.
- Clapp, C.E., and M.H.B. Hayes. 1996. Isolation of humic substances from an agricultural soil using a sequential and exhaustive extraction process. p. 3-11. *In* C.E. Clapp et al. (ed.). *Humic substances and organic matter in soil and water environments: Characterization, transformations and interactions*. International Humic Substances Society, St. Paul.
- Häusler, M.J., and M.H.B. Hayes. 1996. Uses of the XAD-8 resin and acidified dimethylsulfoxide in studies of humic acids. p. 25-32. *In* C.E. Clapp et al. (ed.). *Humic substances and organic matter in soil and water environments: Characterization, transformations and interactions*. International Humic Substances Society, St. Paul, MN.
- Hayes, T.M., M.H.B. Hayes, J.O. Skjemstad, R.S. Swift, and R.L. Malcolm. 1996. Isolation of humic substances from soil using aqueous extractants of different pH and XAD resins, and their characterization by ¹³C-NMR. p. 13-24. *In* C.E. Clapp et al. (ed.). *Humic substances and organic*

matter in soil and water environments: Characterization, transformations and interactions.
International Humic Substances Society, St. Paul, MN.

Swift, R.S. 1996. Organic matter characterization. p. 1011-1069. *In* D.L. Sparks (ed.). Methods of soil analysis, Part 3: Chemical methods. SSSA Book Series No. 5. SSSA and ASA, Madison, WI.

Clapp, C.E., and M.H.B. Hayes. 1999. Characterization of humic substances isolated from clay- and silt-sized fractions of a corn residue-amended agricultural soil. *Soil Sci.* 164:899-913.