**Título:** IDENTIFICACIÓN, CARACTERIZACIÓN MOLECULAR Y SIGNIFICADO DE LOS RESIDUOS DE FUEGO EN LOS SUELOS COLUVIALES DE CAMPO LAMEIRO (NO PENINSULAR)

**Nombre:** Kaal , Joeri

**Universidad:** Universidad de Santiago de Compostela

**Departamento:** Edafología y química agrícola

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**Dirección:**

> **Director:** Felipe Criado Boado

> **Director:** Antonio Martínez Cortizas

**Tribunal:**

> **presidente:** Felipe Macías Vázquez

> **secretario:** Serafín González Prieto

> **vocal:** YOLANDA CARRION MARCO

> **vocal:** Heike Knicker

> **vocal:** Klaas G.J. Nierop

**Descriptores:**

> MACROMOLECULAS

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**Resumen:** The thick organic matter-rich colluvial soils of NW Spain (Atlantic rankers), which formed as a result of Holocene slope transport processes, might well contain large amounts of Black C from palaeofires, not only as large charcoal fragments (as was frequently reported) but also as finely divided and amorphous, largely NaOH-extractable material, as appeared to be the case for the soils of the study area. Therefore, Black C may be a major agent in the pedogenesis of these soils. Furthermore, the abundance of Black C may be responsible for the deep dark colour and explain the high resistance of the soil organic matter against biological degradation, in combination with occlusion and the traditional sorptive preservation

mechanisms. The indirect evidence of human influence in the fire regime that created these soils implies that the Atlantic rankers have an anthropogenic character.

Upon long-term burial, Black C becomes increasingly oxidised, depolymerised, depolyaromatised, fractionated (on a macrostructural scale) and incorporated in the fine fabric of the soils studied here. The results presented suggest significant alteration of Black C on the millennial scale. The difficulties in recognising amorphous and degraded Black C without application of advanced molecular characterisation techniques explains why fire (thermal modification) was hitherto ignored as a major cause of soil organic matter stability in Atlantic rankers.

In the study area, local deforestation and shrubland expansion started already ca. 7000 cal BP and accelerated since ca. 6000¿5500 cal BP. In all likelihood, past societies used fire to clear the land and facilitate animal grazing, but climate deterioration after the Holocene Thermal Maximum and Roman Warm Period may have catalysed human inpact on the vegetation patterns. Fabaceae and Ericaceae shrubland communities first colonised the upper slopes of the hill and then probably expanded into the lower areas. The deciduous forest never completely recovered after the phases of forest retreat (ca. 7000¿6500 cal BP, 5700¿5300 cal BP, 4000¿3500 cal BP, 3000¿2000 cal BP and 2000¿1500 cal BP) because of the intense burning and grazing disturbance regime imposed. This process might reflect the formation of the traditional dual landscape that can still be observed nowadays: shrubland and pasture grounds at o monte and cultivated land and some fragmented remains of deciduous forest in the valleys. If this proves correct, the roots of the o monte land use, including slash-and-burn practices and extensive pastoralism, may date back to the Neolithic and perhaps even Late Epipalaeolithic/Mesolithic period.