Ecoash “Three Bears”: New Eco-Friendly Fire Retardant for Wildfires Prevention

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Around the town of Starobin wildfires are frequent – peat bogs burn. That is why making an available and eco-friendly fire retardant allied to peat bogs from local raw materials is so urgent for us. There is a peat-block plant, a wood-working mill and a cattle farm in Starobin. These factories have everything necessary for the production of a fire retardant. It is well-known that one can use casein as a fire retardant. But the problem of washing casein out is still open. I supposed that we can get an eco-friendly fire retardant allied to peat bogs from wood sawdust modified with casein fastened with resin contained in sawdust, and ashes of peat. Optimal formulation for best fire redundant properties was ascertained experimentally. A series of experiments on combustibility and water resistance were carried out. The approbation of the fire retardant was held in the laboratory and the field. The 1:2 mass ratio for sawdust with casein and ashes of peat is the most efficient. I named the derived fire retardant Ecoash “Three bears”. Ecoash can be used to prevent fires in recreational areas (when using barbecue, making a fire, or burning grass); it can be strewn in fire prone areas, when putting out fires (it is also to be strewn in canals to prevent fires from spreading). The fire retardant needs further studying: the observations suggest that ashes are carbonized during the fire, thus making a peculiar layer which prevents oxygen from getting inside peat and retards burning.

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