

Short abstract proposal: Development of cost-effective pigment/biopolymer waterproof coatings

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My previous work has shown that incorporation of pigments with binders can produce an effective water-proof barrier coating. Parameters include the type of binder, pigment and the relative weight concentrations of binder and pigment. The current drive for development of such coatings is the replacement of fluorocarbons and other petrochemical based coatings on food packaging: folding cartons in the freezers, corrugated boxes in the fields and processing plants. Recent development of available commercial biopolymers combined with chemically benign available mineral pigments offer a potential economical replacement for conventional petrochemical based aqueous waterproofing coatings. This project aims to develop and demonstrate the performance of an effective aqueous based pigment/biopolymer coating. The results will be a successful coating formulation applied to linerboard which will have sufficient water proofing at low material cost. The formulation will also be optimized to prevent score or fold cracking.