CONTROLLED RELEASE MENTHOLATED TOBACCO BEADS

BACKGROUND

Encapsulated tobacco beads having improved storage stability with controlled release of flavorants are disclosed.

SUMMARY

According to an embodiment, an encapsulated tobacco bead comprises a core comprising tobacco particles and menthol and an outer coating layer comprising an ionically-crosslinked gel. Preferably, encapsulated tobacco bead further comprises, an inner coating layer comprising hydroxypropyl methylcellulose or pectin. Preferably, the core comprises encapsulated menthol.

According to another embodiment, a process of making encapsulated tobacco beads comprises mixing tobacco particles and menthol in an aqueous solution to form a wet mass; extruding the wet mass to form extrudates; spheronizing the extrudates to form tobacco beads; drying the tobacco beads; contacting the beads with a solution comprising a cation; and introducing the contacted tobacco beads into a solution of coating material in a concentration effective to induce ionic gelation of the coating material around the beads, to form encapsulated tobacco beads having gel coatings.

In one embodiment, there is provided a smoking article comprising one or more encapsulated tobacco beads, the one or more encapsulated tobacco beads comprising: a core comprising tobacco particles and menthol, and an outer coating layer comprising an ionically-crosslinked gel.

In another embodiment, there is provided a process of making encapsulated tobacco beads for use in a smoking article as defined herein, the process comprising: mixing tobacco particles and menthol in an aqueous solution to form a wet mass; extruding the wet mass to form extrudates; spheronizing the extrudates to form tobacco beads; drying the tobacco beads; contacting the tobacco beads with a solution comprising a cation; and introducing the contacted tobacco beads into a solution of coating material in a concentration effective to induce ionic gelation of the coating material around the tobacco beads, to form encapsulated tobacco beads having a gel coating.

In a further embodiment, the contacting with the solution comprising the cation occurs in a fluidized bed simultaneously with the drying the tobacco beads.

BRIEF DESCRIPTION OF THE DRAWINGS

The various embodiments will now be described in greater detail with reference to the preferred embodiments illustrated in the accompanying drawings.

FIGS. 1A and 1B are environmental scanning electron microscopy (ESEM) images of pectin coated mentholated tobacco beads;

FIG. 2 is a graph showing weight losses of hydroxypropyl methylcellulose ("HPMC") coated and pectin coated mentholated tobacco beads as a function of time in vacuum oven;

FIGS. 3A and 3B are ESEM images of crosslinked alginate coated tobacco beads (dry coating); AND

FIG. 4 is an ESEM image of a HPMC/crosslinked alginate coated mentholated tobacco bead.