A method for selection of barley, free from barley lipoxygenase-1, which comprises the stage of sensing of barley, free from barley lipoxygenase-1, by means of determination of occurrence of guanine in donor site of splicing of the fifth intron of the barley lipoxygenase gene, mutated in another basis. The process for preparation of malt alcoholic beverages using the material for the malt alcoholic beverages, obtained from the barley, obtained by using of this method for selection.