The invention belongs to the field of bioenergetics, which solves the problems of obtaining biomass resources and the problems of using multi-crop (trinary) plants consisting of corn, hemp and faba beans for the production of biofuel. Corn, hemp and beans are grown in the same crop as a mixture. Biomass ratio (corn:hemp:beans) by dry weight - about 1:3:2. The biomass plants is naturally dried, chopped, milled and granulated. The produced pellets are high density and crush resistant. Combustion of pellets ensures a high-quality and efficient combustion process, and the determined emissions of harmful pollutants, such as carbon dioxide and monoxide, nitrogen oxides, unbumed hydrocarbons and sulfur dioxide, do not exceed the permissible values and are suitable for use in small-capacity heating boilers. The invention also belongs to the field of agriculture, as it contributes to the solution of the problem of soil improvement and fertility restoration, and they could also be used as an organic fertilizer, as they contain significant amounts of phosphorus, potassium and calcium.