

Choice of Optimal Methods for Processing Phosphate Raw Materials into Complex Mineral Fertilizers

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Abstract : Based on the generalization of scientific and production experience and the latest developments of JSC "NIUIF", the oldest (founded in September 1919) and the only Russian research institute for phosphorus-containing fertilizers, this paper shows the factors that determine the reasonable choice of a method for processing phosphate raw materials into complex fertilizers. These factors primarily include the composition of phosphate raw materials and the impurities contained in it, as well as some parameters of the process mode, wastelessness, ecofriendliness, energy saving, maximum use of the heat of chemical reactions, fire and explosion safety, efficiency, productive capacity, the required product range and the possibility of creating flexible technologies, compliance with BAT principles, etc. The presented data allow to choose the right technology for complex granular fertilizers, depending on the abovementioned factors.

Keywords : BAT, ecofriendliness, energy saving, phosphate raw materials, wastelessness

Conference Title : ICAFT 2023 : International Conference on Advanced Fertilizer Technologies

Conference Location : Vancouver, Canada

Conference Dates : September 25-26, 2023