# GRANULATED ORGANOMINERAL FERTILIZER PRODUCED FROM SOUTH MORAVIAN LIGNITE

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Lignites and low rank coals have already been recognized for their potential as soils conditioners and fertilizers. There are several reasons of their successful applications such as for example content of biologically active humic substances, high surface area causing good water holding capacity, porosity allowing aeration or high stability of fixed carbon. South Moravian lignite mined in Czech Republic served as an organic raw material for development of organomineral granulated fertilizers. As a mineral component and source of soluble form of phosphorous, the superphosphate (at different amount) was used. The developed fertilizers showed good physical characteristics such as hardness, resistivity and density. On the contrary, following pre-treatment of lignite by potassium hydroxide did not bring about any improvement of fertilizers physical characteristics. The average hardness of manufactured organomineral fertilizers were around 0.4 kg $cm^{-2}$. The application of lignite seems to be a promising approach since the content of humic acids in the lignite is as high as 30%. In our recent work we proved biological activity of pure humic acids extracted from South Moravian lignite without addition of nutrients. Here the activity is tested as the combination of cost effective raw lignite and basic nutrients with respect to the physical characteristics of developed fertilizer. The conference contribution will present preliminary data regarding the effect of lignite to support the uptake of phosphorus to the plant roots and relevant physical character of all developed fractions.