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Increment in protein content in the Soybean National Breeding Program at INTA Marcos, Argentina

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In the last decades, soybean yield potential has been significantly increased due to genetics, fertilization, management and water availability caused by the increment in the level of the phreatic watertable. Due to the negative correlation between yield and protein content, and since breeding programs do not select germplasm by protein content, a decrease from 40% to 38.5/38.0% has been found. This situation has a negative impact on the Argentine agro industrial complex, since industry obtain flours with lower protein contents the one required by the market. INTA's National Soybean Breeding Program is working on simultaneous selection for grain yield and protein content at the Experimental Station located in Marcos Juárez, since six years ago. Researchers are selecting germplasm along three sowing times (early, optimum, and late) in one location. Evaluated 230 experimental lines, results show it is possible to overcome the negative correlation between the studied characters, obtaining average yields of 4000kg/ha with an average protein content of 40%, and maximum yields of 5400kg/ha with a maximum protein content of 43%.