Expression Protein Analysis from Wheat Plantlets Co-Cultivated with and without *H. seropedicae*.


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CD120 a wheat COODETEC cultivar was selected as model to study plant-bacteria interaction for showing the ability to maintain beneficial interaction with *H. seropedicae in vitro* experiments and production when inoculated on seed without urea fertilization. The aim of this work was to analyze the 2DE gels image from this cultivar when co-cultivated *in vitro* with *H. seropedicae* to verify the differential proteins expression from shoot and root. Wheat plantlets, at Zadok 12 obtained from mature embryos were transferred to 10 mL of liquid 1/10 MS medium in tubes. After 24 hours, tubes were inoculated with 10⁷ cells/mL of *H. seropedicae* and remained for 7 days in co-cultivation. As control, plantlets not inoculated followed same conditions. At the end of experimental period, some plantlets from control and inoculated were taken to verify endophytic bacteria and others were separated in shoots and roots to protein extraction in triplicate. Protein quantification was assayed by BCA protocol. Immobiline DryStrip pH 3-10, 7 cm and SDS-PAGE 12% were used to first and second dimension, respectively in 2DE gels. Images were analyzed by Image Master 2D platinum, V.6.0. The extraction protocol showed a protein yield of 8% and reproducibility. About 105 spots were detected in control and inoculated shoot and 90 spots control and inoculated root experiments. From shoot, 3 and 5 spots were exclusively observed in control and inoculated experiment, respectively. From root inoculated experiment, one spot was exclusively expressed and other presented higher expression compared to control. No proteins with molecular mass superior to 70 KDa were observed in control and inoculated root. Through the image analysis were possible to verify that the differentially expressed proteins were among the less abundant ones at this initial stage of wheat development.

Key-word: Differential proteome, wheat, *Herbaspirillum seropedicae*, Plant growth promoting bacteria

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