Supplement

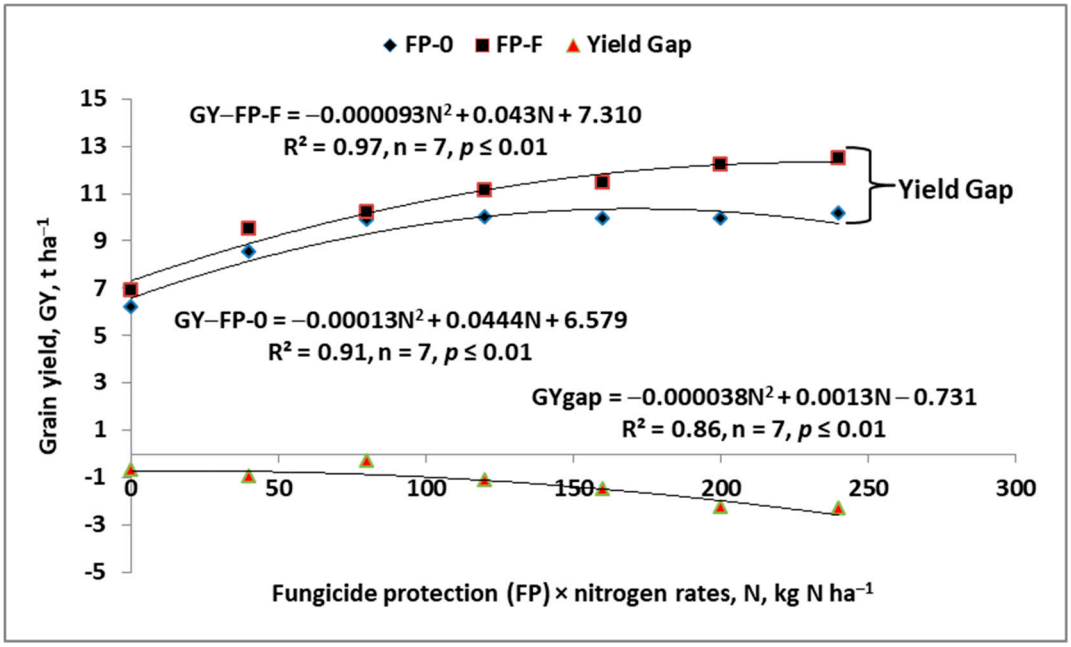


Figure S1. Regression models of grain yield response to increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides.

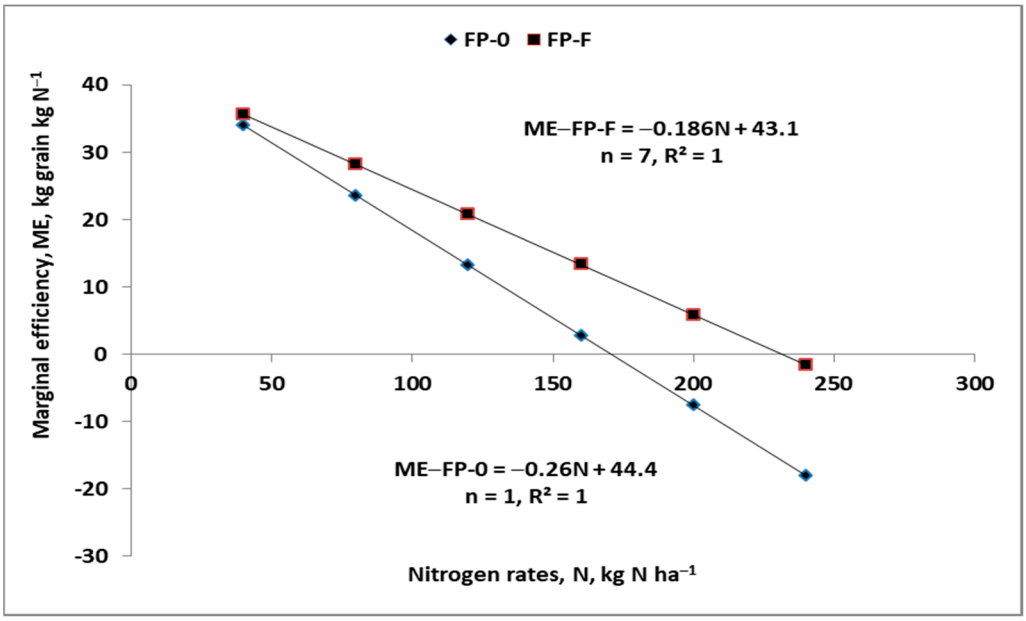


Figure S2. Regression models of marginal efficiency increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides.

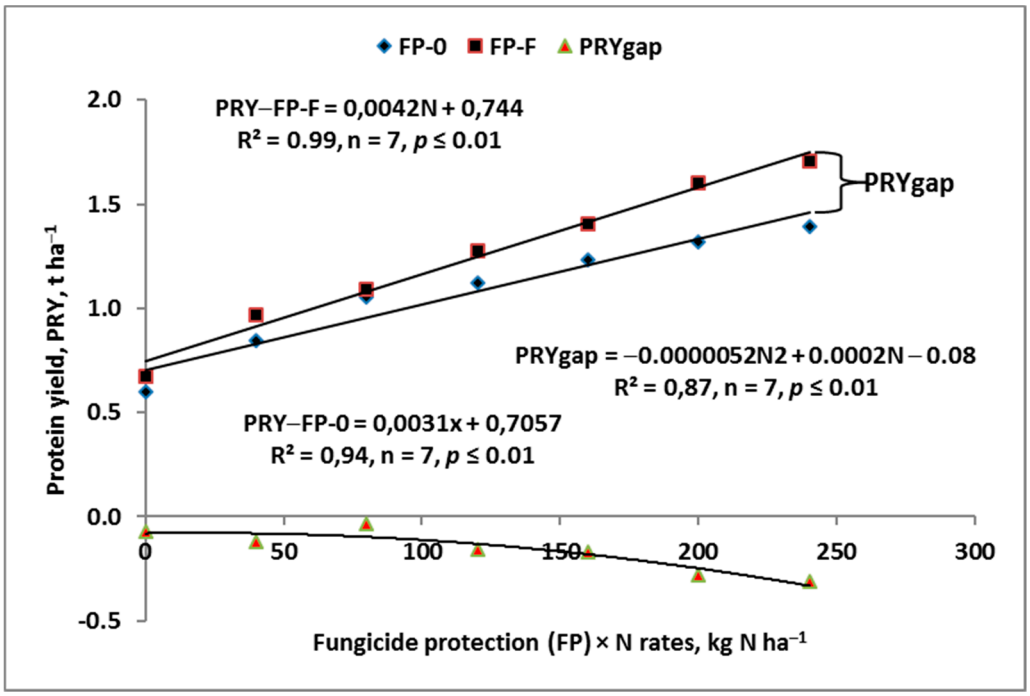


Figure S3. Regression models of protein yield response to increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides.

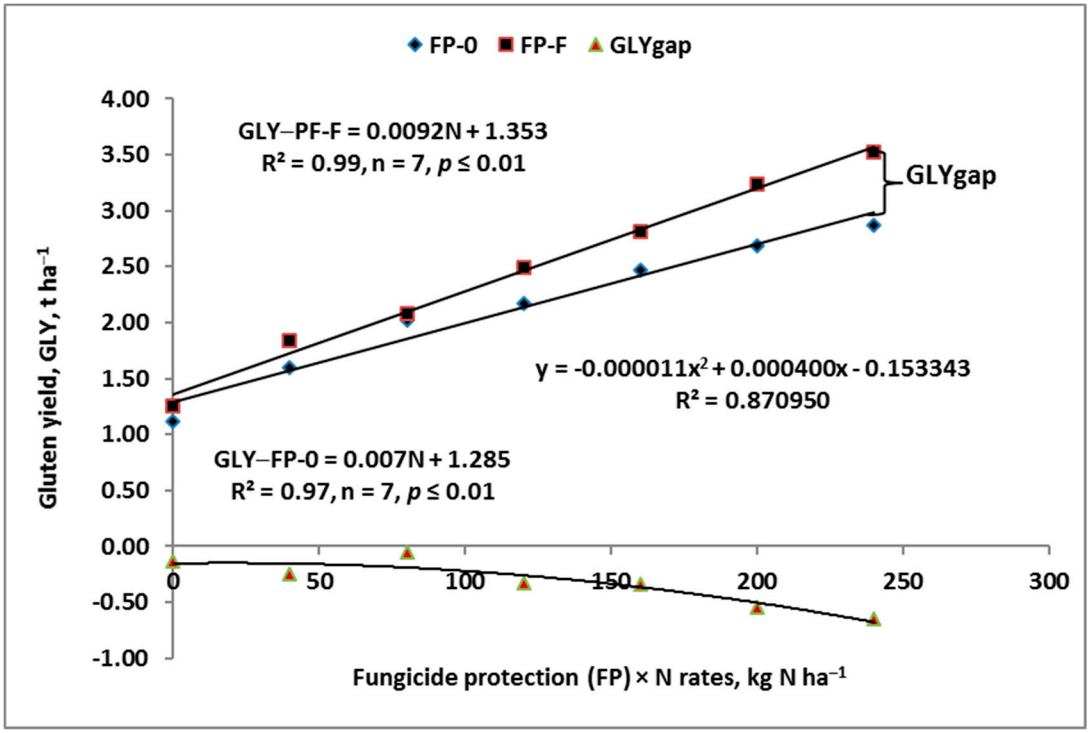


Figure S4. Regression models of gluten yield response to increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides.

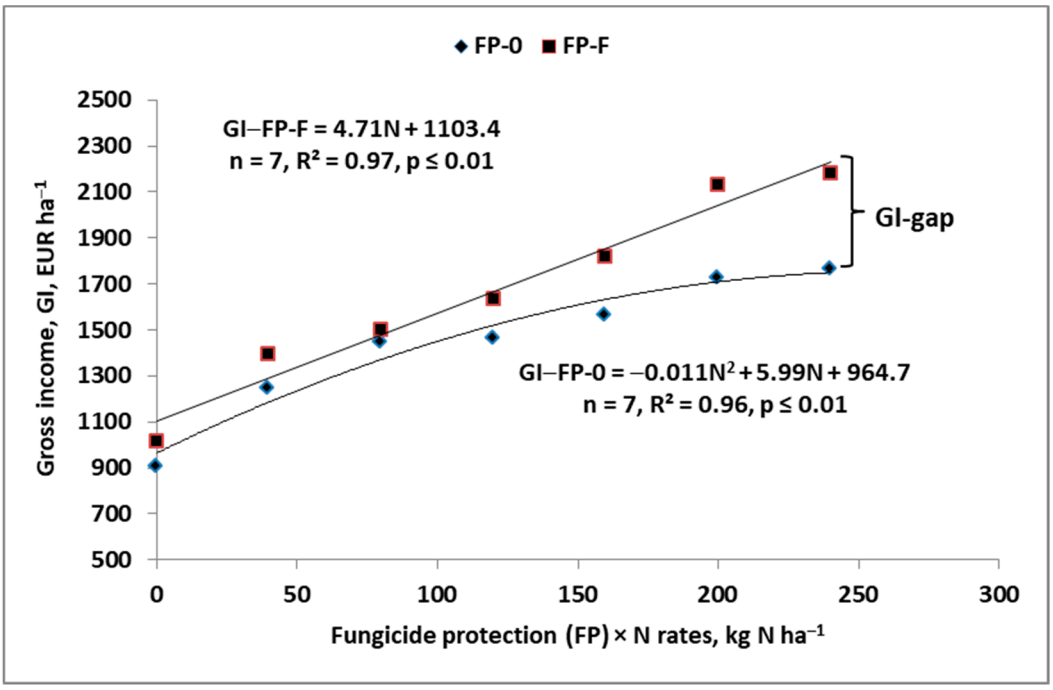


Figure S5. Regression models of gross income response to increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides.

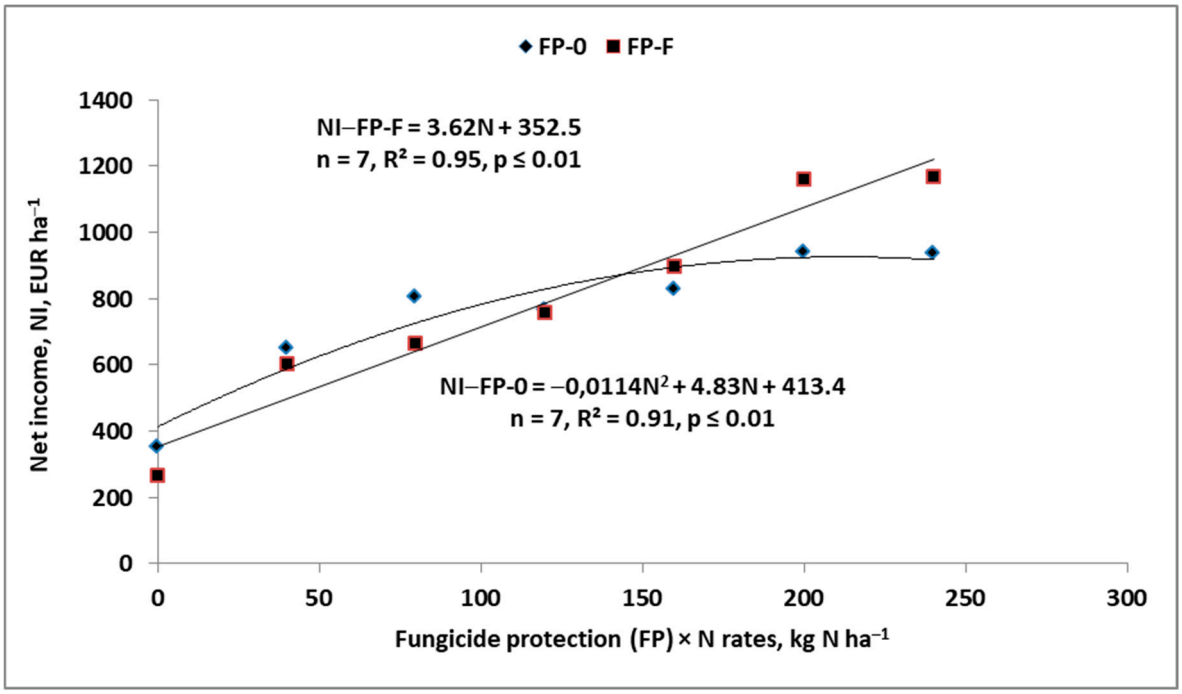


Figure S6. Regression models of net income response to increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides.

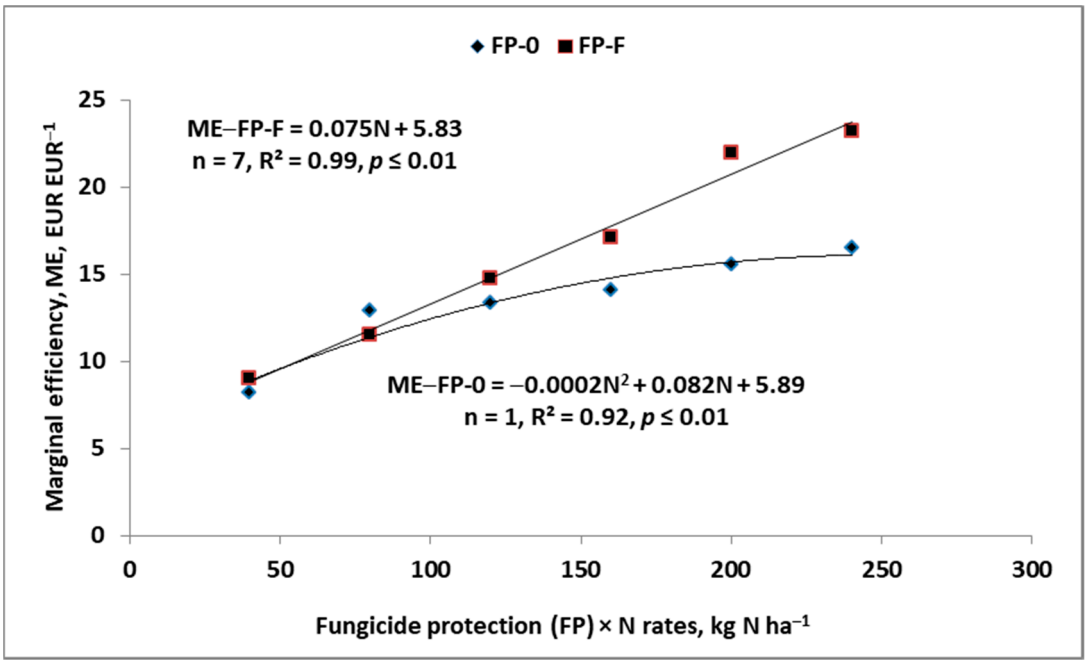


Figure S7. Regression models of marginal efficiency response to increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides.

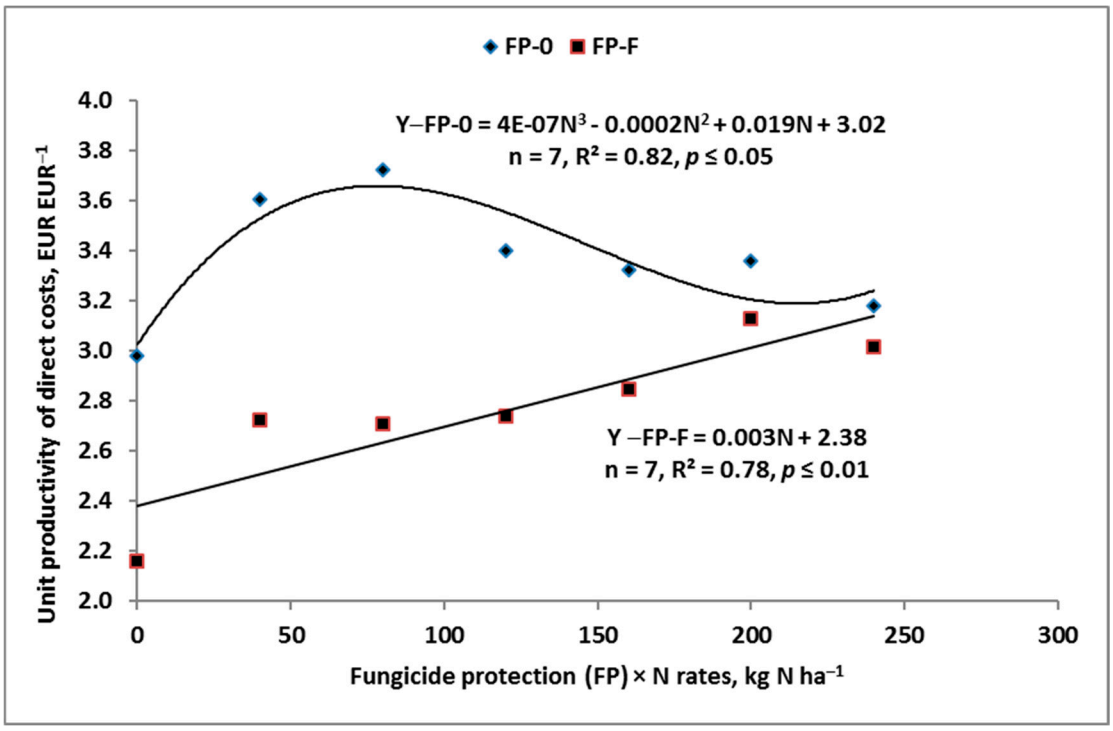


Figure S8. Regression models of unit productivity of direct costs response to increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides.

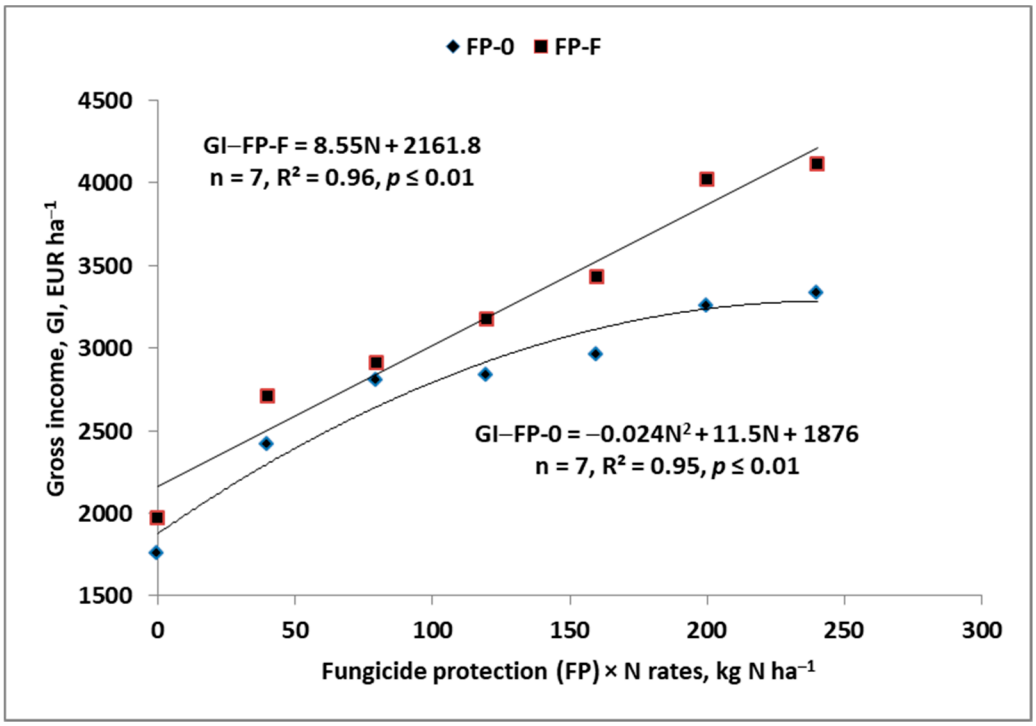


Figure S9. Regression models of gross income response to increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides. – simulation 2022.

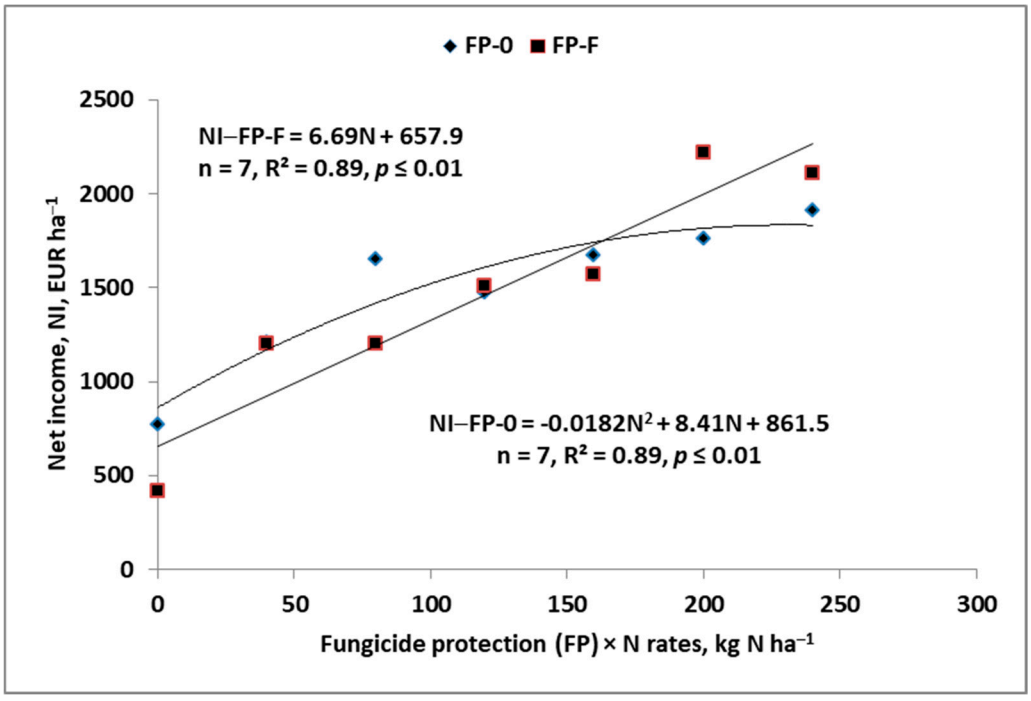


Figure S10. Regression models of net income response to increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides. – simulation 2022.

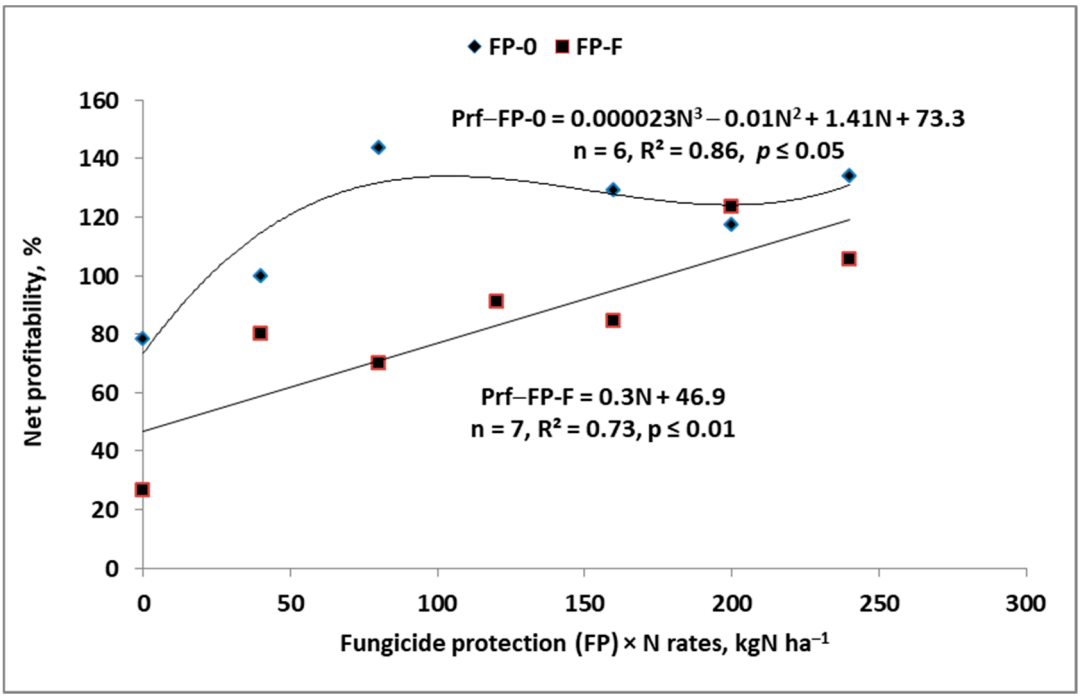


Figure S11. Regression models of net profitability response to increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides. – simulation 2022.

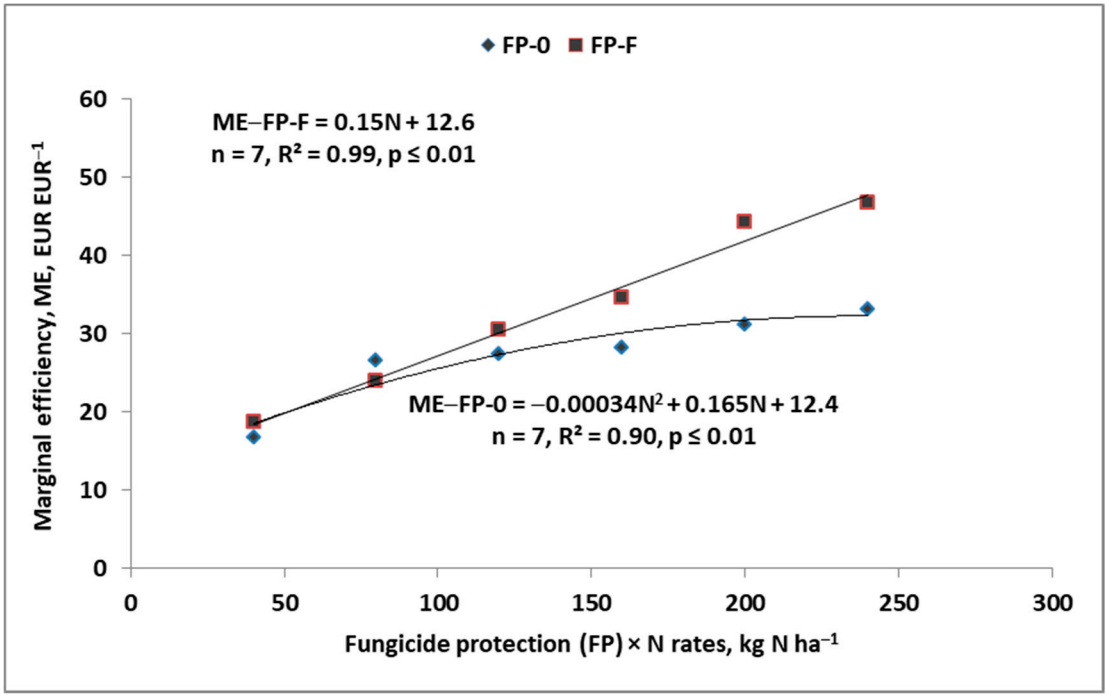


Figure S12. Regression models of marginal efficiency response to increasing rates of fertilizer nitrogen on the backgroung of winter wheat protection with fungicides; – simulation 2022.

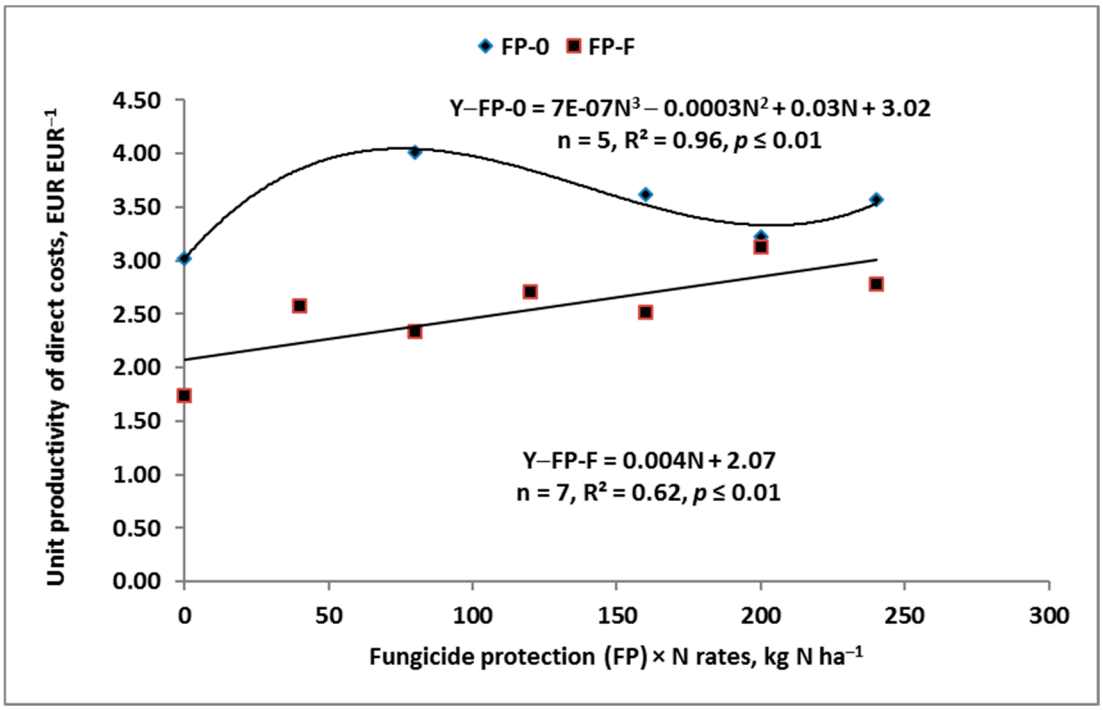


Figure 13. Effect of winter wheat protection with fungicides and rates of fertilizer nitrogen on unit productivity of direct costs. Similar letters in the column means a lack of significant differences using Tukeys' test; The vertical bar in the column refers to the standard error of the mean; – simulation 2022.