



## **ANALISIS KINERJA LABORATORIUM RICE COMBINE HARVESTER DAEDONG DSF75GT**

### **INTISARI**

**Oleh:**

**ADAM WISNU AJI**  
**14/369363/TP/11102**

*Rice combine harvester* yang baik adalah *rice combine harvester* yang dapat memanen padi tanpa merusak gabah melebihi toleransi yang ditetapkan SNI. Salah satu kelemahan dari beberapa *rice combine harvester* adalah belum sempurnanya unit pengangkut gabah setelah dirontokkan dan menyebabkan terjadinya kerusakan gabah. Penelitian ini bertujuan untuk menguji kinerja *rice combine harvester* Daedong DSF75GT. Pengujian ini dilakukan dengan variasi kecepatan putaran mesin 2300 RPM, 2500 RPM dan 2700 RPM; variasi jenis gabah kering giling (GKG) dan gabah kering panen (GKP). Parameter yang digunakan untuk menilai kinerja *rice combine harvester* skala laboratorium ini adalah gabah rusak di setiap titik didalam pengamatan meliputi persentase gabah utuh, gabah rusak dan kotoran. Hasil penelitian diperoleh sebagai berikut: (1) perubahan persentase gabah utuh dan gabah rusak pada putaran mesin 2300 RPM GKG, terbesar *screw conveyor* sirkulasi ke *screw conveyor* menuju *grain tank* yaitu 1.01%, (2) untuk putaran mesin 2500 RPM GKG, nilai terbesar dari *screw conveyor* sirkulasi ke *screw conveyor* menuju *grain tank* yaitu 1.28%, (3) untuk putaran mesin 2700 RPM, nilai terbesar dari sebelum gabah masuk ke *screw conveyor* sirkulasi yaitu 1.61%, (4) perubahan persentase kotoran pada putaran mesin 2300 RPM, 2500 RPM dan 2700 RPM terdapat antara *screw conveyor* sirkulasi ke *screw conveyor* menuju *grain tank* dengan nilai urutan 2.25%, 2.64% dan 2.96%, (5) perubahan persentase gabah utuh dan gabah rusak pada putaran mesin 2300 RPM GKP terbesar dari *screw conveyor* sirkulasi ke *screw conveyor* menuju *grain tank* yaitu 1.28%, (6) untuk putaran mesin 2500 RPM GKP, nilai terbesar dari *screw conveyor* sirkulasi ke *screw conveyor* menuju *grain tank* yaitu 1.36%, (7) untuk putaran mesin 2700 RPM, nilai terbesar dari dari sebelum gabah masuk ke *screw conveyor* sirkulasi yaitu 2.16%, (8) perubahan persentase kotoran pada putaran mesin 2300 RPM, 2500 RPM dan 2700 RPM terletak diantara *screw conveyor* sirkulasi dan *screw conveyor* menuju *grain tank* dengan nilai urutan 1.62%, 2.14% dan 2.42%, (9) penyebab kerusakan gabah terbesar terjadi antara *screw conveyor* sirkulasi ke *screw conveyor* menuju *grain tank* didalam *rice combine harvester* Daedong DSF75GT.

Kata kunci: *Rice ombine harvester*, *screw conveyor*, analisis kinerja, kerusakan gabah



## **LABORATORY PERFORMANCE ANALYSIS RICE COMBINE HARVESTER DAEDONG DSF75GT**

### **ABSTRACT**

**By:**

**ADAM WISNU AJI**  
**14/369363 / TP / 11102**

A good rice harvester combine is a combine harvester that can harvest rice without destroying grain beyond the tolerance set by SNI. One of the disadvantages of some combine harvester is the incompleteness of the grain-carrying unit after being threshed and causing grain damage. This study aims to test the performance of rice combine harvester Daedong DSF75GT. This test is done with variations of engine speed of 2300 RPM, 2500 RPM, and 2700 RPM; variation of dry milled grain (GKG) and dry unhulled rice (GKP). The parameters used to assess the performance of this laboratory scale rice combine harvester are the broken grains at each point in the observation covering the percentage of whole grains, broken grains, and feces. The results of the research are as follows: (1) change of percentage of unhulled grain and unhulled grain at engine speed 2300 RPM MPD, largest screw conveyor circulation to screw conveyor to grain tank that is 1.01%, (2) for engine rotation 2500 RPM MPD, screw conveyor circulation to screw conveyor to grain tank that is 1.28%, (3) for engine rotation 2700 RPM, the largest value from before the grain goes to the circulation screw conveyor that is 1.61%, (4) percentage change of dirt at engine speed 2300 RPM, 2500 RPM and 2700 RPMs are available between screw conveyor circulation to screw conveyor to grain tank with sequence value 2.25%, 2.64% and 2.96%, (5) change of percentage of whole grain and unhulled grain on engine speed 2300 RPM GKP largest from screw conveyor circulation to screw conveyor to grain tank that is 1.28%, (6) for engine rotation 2500 RPM GKP, the largest value of screw conveyor circulation to screw conveyor to grain tank that is 1.36%, (7) for engine speed 2700 RPM, the largest value from before the grain goes to the circulation screw conveyor is 2.16%, (8) the change of dirt percentage at engine speed 2300 RPM, 2500 RPM and 2700 RPM is located between screw conveyor circulation and screw conveyor to grain tank with sequence value 1.62% , 2.14% and 2.42%, (9) the greatest cause of grain damage occurs between the screw conveyor circulation to the screw conveyor to the grain tank inside the rice combine harvester Daedong DSF75GT.

**Keywords:** Rice ombine harvester, screw conveyor, performance analysis, grain damage