

## Appendix A. Supplementary data

Figure S1

a)



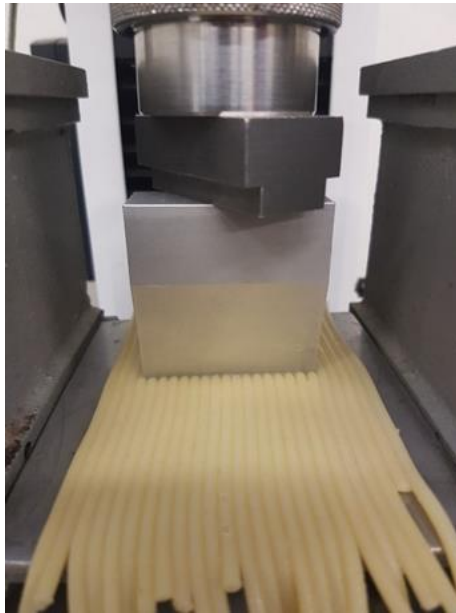
b)



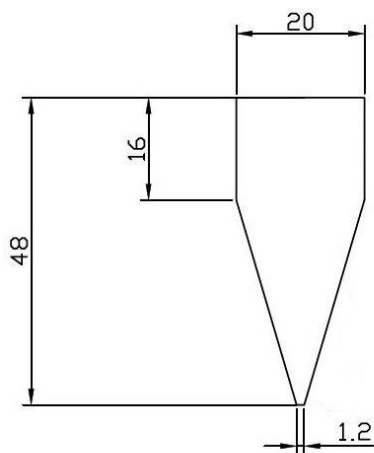
Pictures of (a) the cooking system used in this work, consisting of a pan closed with its lid, mixer, thermocouple, and induction hob, both being placed over a technical balance, and (b) the lid with the central and lateral holes used to insert the mixer and thermocouple.

**Figure S2**

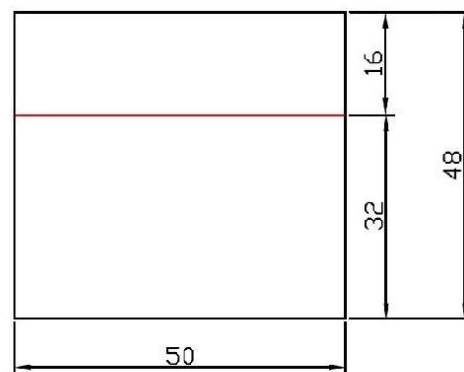
**a)**



**b)**

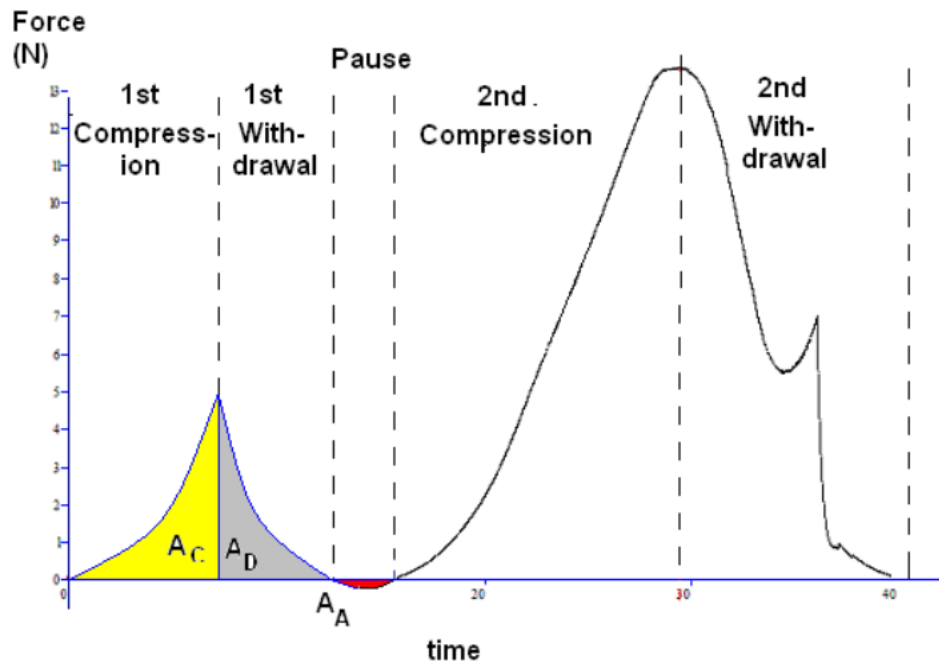


**c)**



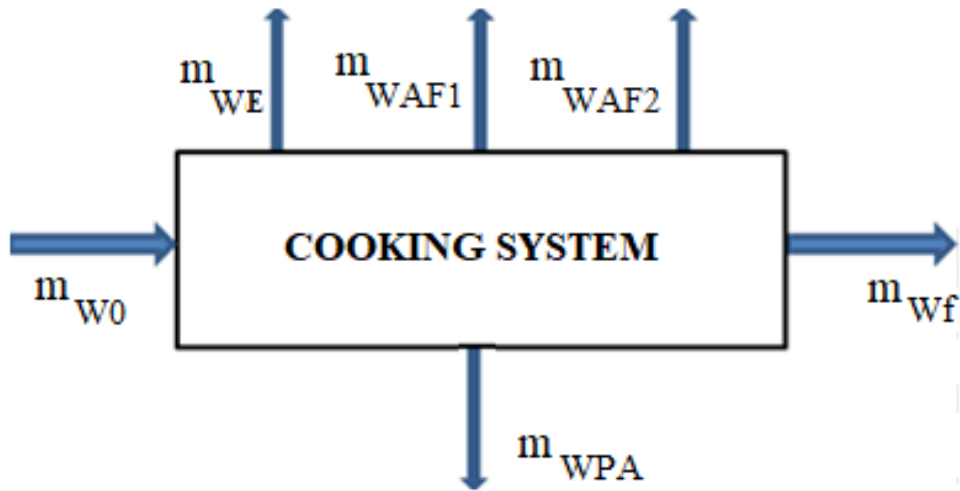
Picture (a), front (b) and side (c) views of the cutting probe used to perform the Texture Profile Analysis of 17 strands of cooked spaghetti aligned over a Teflon compression platen. All dimensions are in mm.

Figure S3



Typical TPA curve as determined in accordance with the standard TPA test set up by Barilla Group (Ballestrieri et al., 2015). All parameters were listed in the Nomenclature section.

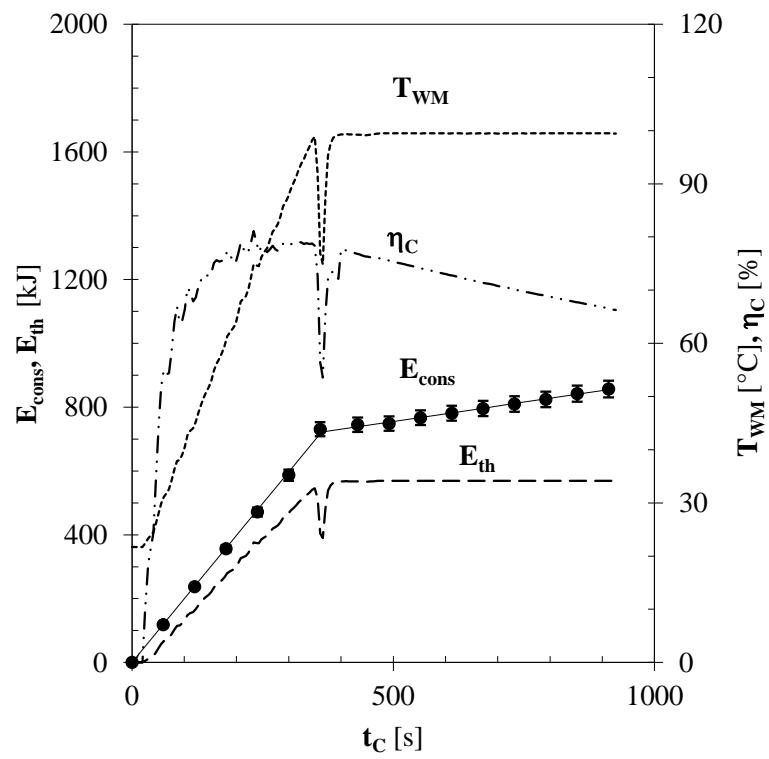
Figure S4



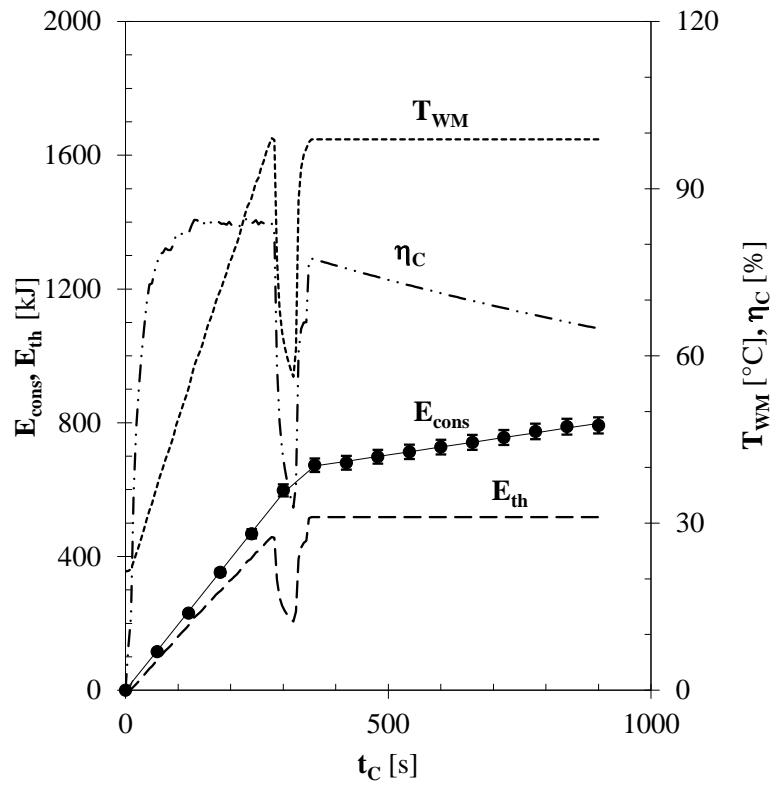
Block diagram of the pasta cooking system examined in this work to establish the cooking water balance. All symbols were listed in the Nomenclature section.

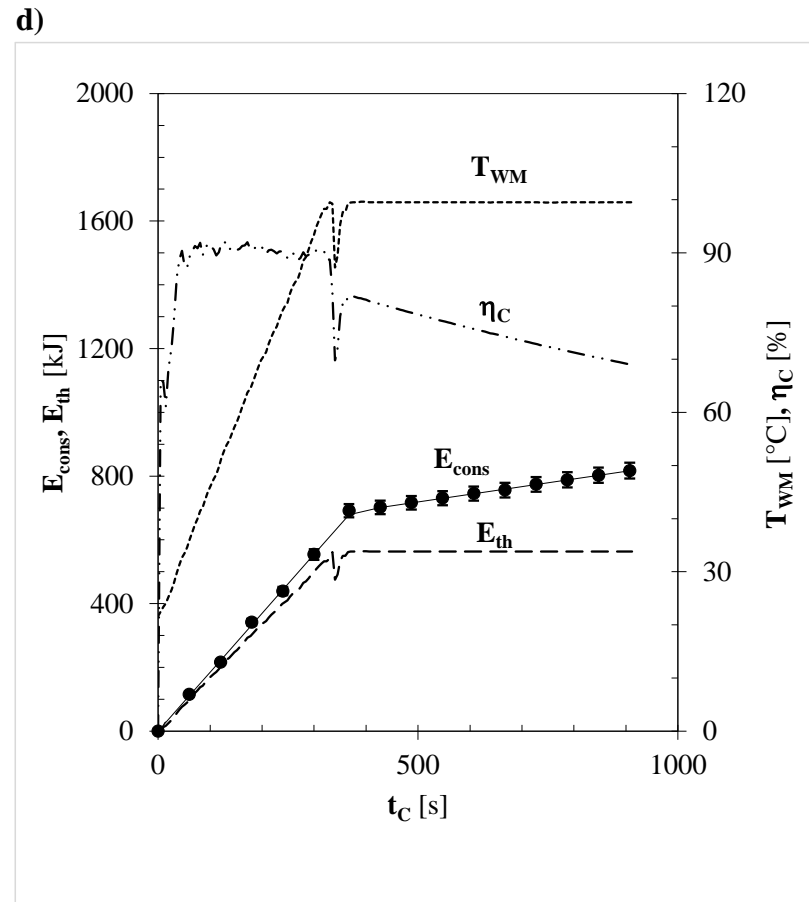
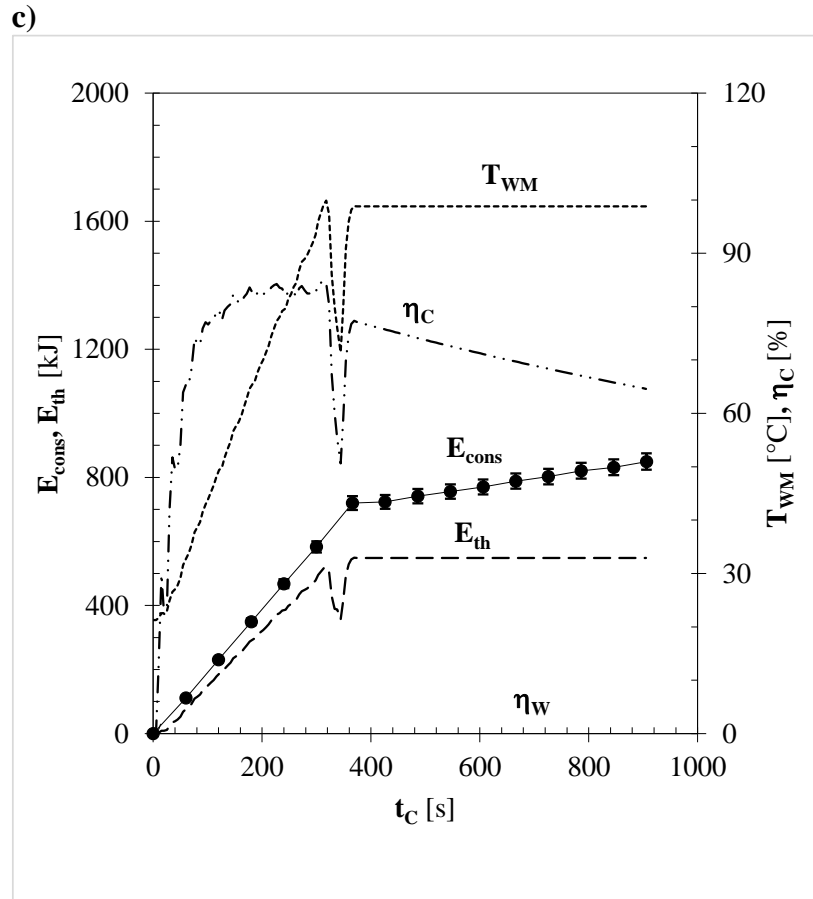
Figure S5

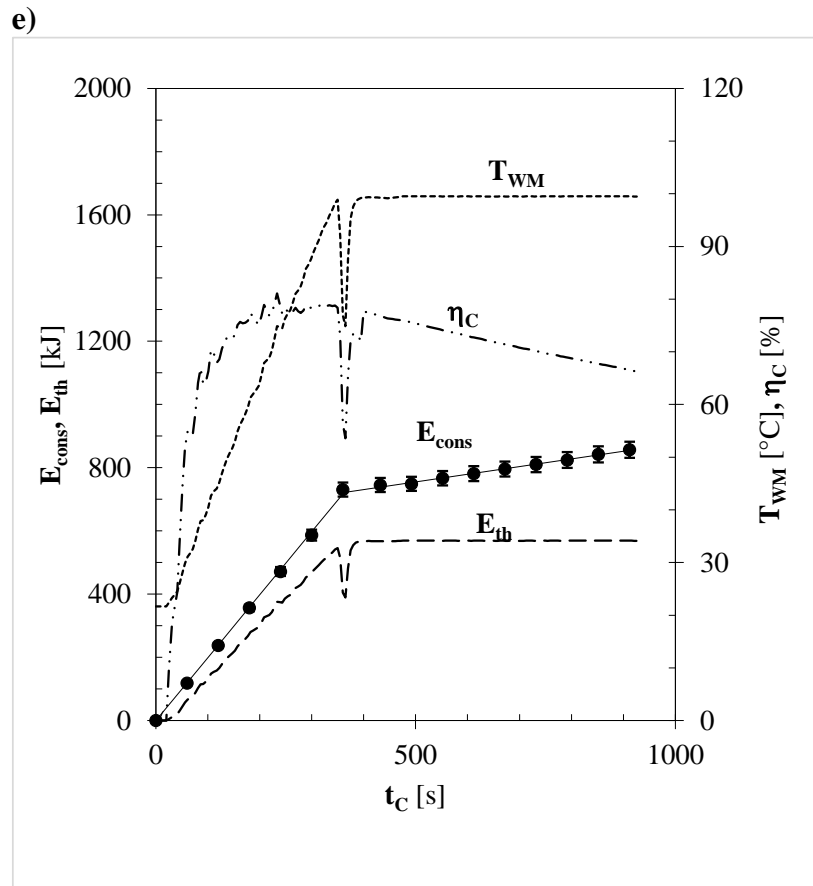
a)



b)



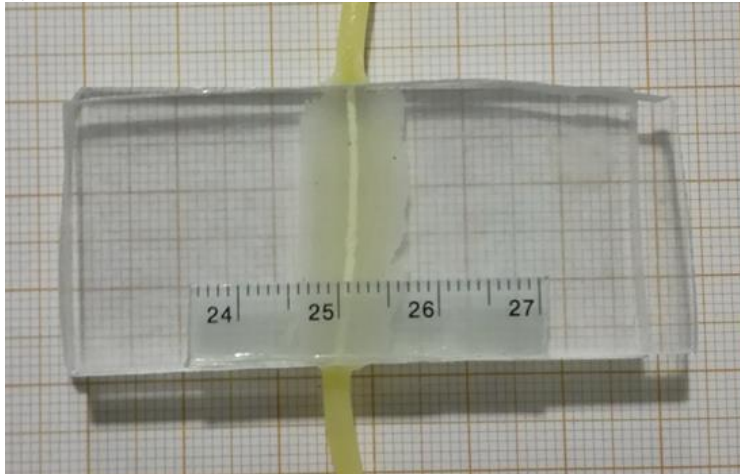




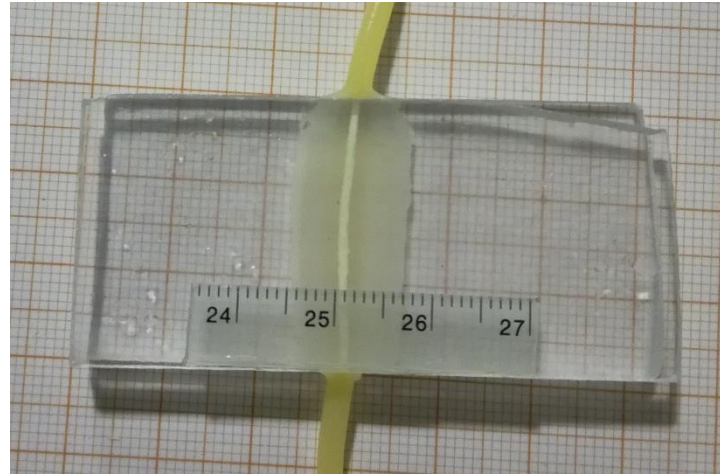
Effect of cooking time ( $t_c$ ) on the cooking water temperature at mid-height ( $T_{WM}$ : - - -), energy theoretically ( $E_{th}$ : — —) and effectively ( $E_{cons}$ : —●—) consumed, and energy efficiency ( $\eta_c$ : —·—, —·—) during pasta cooking with different WPR values [a) =2; b) 3; c) 6; d) 10; e) 12 L/kg dry pasta] and the hob control knob set at the nominal power of 2 kW during the cooking water heating phase and at 0.4 kW during the pasta cooking one.

**Figure S6**

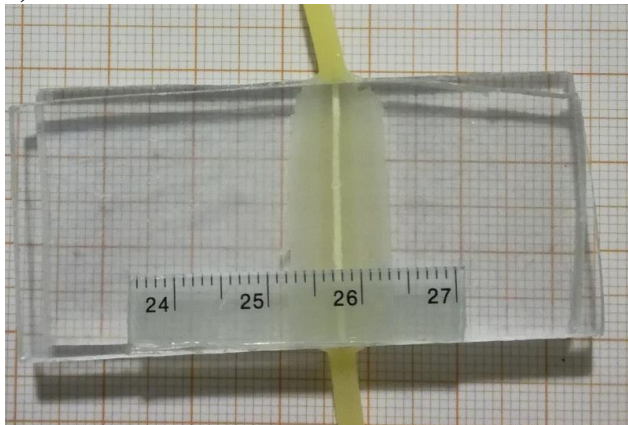
**a)**



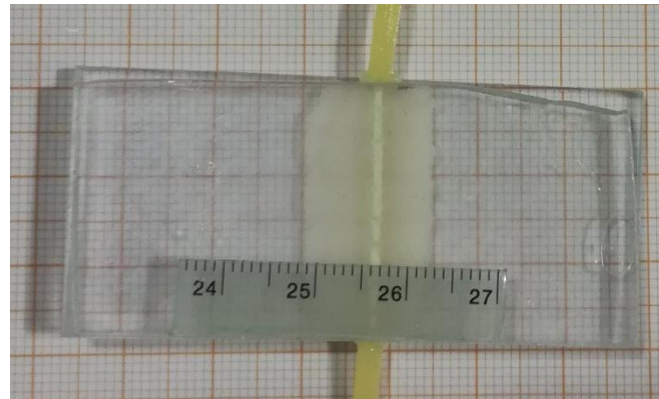
**b)**



**c)**

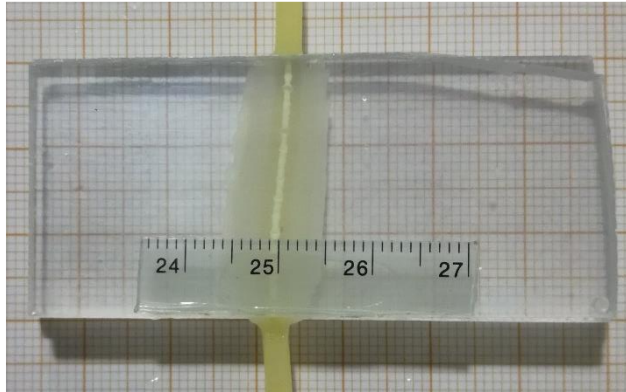


**d)**



**e)**





Pictures of a typical spaghetti strand as cooked using 2 **(a)**, 3 **(b)**, 6 **(c)**, 10 **(d)** or 12 **(e)** L of water per kg of dry pasta for 9 min, removed from the pan and squeezed between two glass slides according to AACC International. <sup>24</sup>