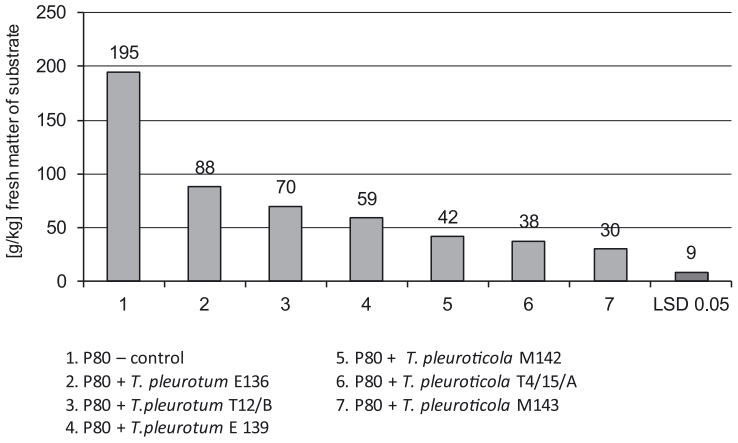

Fig. 2. Yield of *P. ostreatus* P80 strain on substrate infested with *T. pleurotum* and *T. pleuroticola* isolates

tation of the substrate with isolates of the *T. pleuroticola* species. The highest yield on the substrate infested with this species was recorded in the case of the M142 isolate (42 g/kg) while in the case of the T4/15/A isolate, the yield was lower but not significantly different (38 g/kg). The oyster mushroom yields on the substrate infested with the M143 isolate were similar to those recorded for the substrate attacked by the T4/15/A isolate but significantly lower in comparison to the substrate infestation with the M142 isolate (Fig. 2).

Yield drop percentage analysis of the PX strain of the *P. ostreatus* growing on substrates infested with *T. pleurotum* or *T. pleuroticola* showed that it varied significantly depending on the isolate used to infest the substrate. Substrate infestation with the *T. pleuroticola* isolate caused high yield losses of the PX strain which, in the case of the T4/15/A isolate were the highest (79.2%), while in the case of the M142 isolate – the lowest (68.2%). Yield reduction in the case of substrate infestation with two isolates of *T. pleurotum* were similar and amounted to 57.8% when the substrate was attacked by the E136 isolate and 53.2% in the case of the T12/B isolate. The smallest yield drop of the PX strain amounting to 41% was determined when the substrate was infested with the E139 isolate of this species (Table 2).

Table 2. Yield reduction [%] of *P. ostreatus* PX strain on substrate infested with *T. pleurotum* and *T. pleuroticola* isolates

Strain + *Trichoderma* sp. isolate	Yield reduction [%]
PX + *T. pleuroticola* T4/15/A	79.2
PX + *T. pleuroticola* M143	76.9
PX + *T. pleuroticola* M142	68.2
PX + *T. pleurotum* E136	57.8
PX + *T. pleurotum* T12/B	53.2
PX + *T. pleurotum* E139	41.0

The performed analysis of the percentage of *P. ostreatus* yield losses of the P80 strain cultivated on substrates infested with *T. pleurotum* and *T. pleuroticola,* revealed that infestation with the above-mentioned isolates caused very significant yield drops. Substrate infestation with *T. pleuroticola* isolates led to high yield losses. The highest yield loss of the P80 strain was determined in the case of the infestation of the substrate with the M143 isolate (84.6%) and the smallest – when the substrate was treated with the M142 isolate (78.5%). Substrate infestation with the *T. pleurotum* isolate caused yield losses of the P80 strain ranging from 69.7% in the case of substrate infestation with the E139 isolate, to 54.9% in the case of the E136 isolate (Table 3).

Table 3. Yield reduction [%] of *P. ostreatus* P80 strain on substrate infested with *T. pleurotum* and *T. pleuroticola* isolates

Strain + *Trichoderma* sp. isolate	Yield reduction [%]
P80 + *T. pleuroticola* M143	84.6
P80 + *T. pleuroticola* T4/15/A	80.5
P80 + *T. pleuroticola* M142	78.5
P80 + *T. pleurotum* E139	69.7
P80 + *T. pleurotum* T12/B	64.1
P80 + *T. pleurotum* E136	54.9

DISCUSSION

The performed trials showed that fungi of the *Trichoderma* genus, *i.e. T. pleurotum* and *T. pleuroticola* species caused significant losses of *P. ostreatus* yields. It can be said that *T. pleuroticola* isolates resulted in greater yield losses.

There is no information in the available literature regarding the influence of substrate infestation with *Trichoderma* isolates on *P. ostreatus* yields. Earlier investigations conducted by the authors concerning the impact of *T. aggressivum* f. *europaeum* showed that *Agaricus bisporus* strains are characterised by different resistance to the infestation with the above-mentioned *Trichoderma* species. We found that brown strains responded to the infestation with lower yield losses than white strains (Sobieralski *et al*. 2009). The performed experiments failed to demonstrate significant differences in the response to *T. pleurotum* and *T. pleuroticola* infestation between the two examined *P. ostreatus* strains. The P80 strain yield cultivated on the substrate not infested with *Trichoderma* isolates, was slightly higher than the yield of the PX strain. Nonethe-

less, yield losses in the case of both species infested with *T. pleurotum* and *T. pleuroticola* isolates were very similar.

The performed experiments confirmed the results of earlier studies regarding yield losses caused by aggressive forms of *Trichoderma* in mushroom cultivations. Investigations carried out in recent years revealed that fungi of the *Trichoderma* genus can significantly reduce yields of *Coprinus comatus* (Frużyńska-Jóźwiak *et al*. 2011). The performed experiments confirmed that like *P. eryngii*, *P. ostreatus* also show poor resistance to infestations of the cultivation substrate by *Trichoderma* isolates as evidenced by considerable yield losses (Sobieralski *et al*. 2010). The comparison of the earlier obtained results concerning the influence of substrate infestation with *Trichoderma* isolates on *P. eryngii* yielding, with those recorded in the current study, makes it possible to conclude that the response was similar in the case of both species.

CONCLUSIONS

1. Infestation of the cultivation substrate with *T. pleurotum* and *T. pleuroticola* isolates caused significant yield losses of the examined strains of *P. ostreatus*.
2. Substrate infestation with *T. pleuroticola* isolates exerted a stronger negative impact on *P. ostreatus* yields than with the *T. pleurotum* isolate.
3. The observed response of *P. ostreatus* strains to the infestation of growing substrates with *T. pleurotum* and *T. pleuroticola* isolates was similar.

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