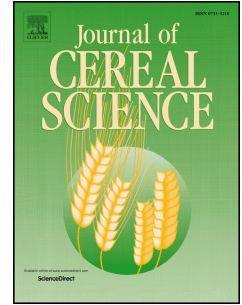


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Lipid content, fatty acid profile, and nutritional value of new oat cultivars

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1 Lipid content, fatty acid profile, and nutritional value of new oat cultivars

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14

15 **Key words:** *Avena sativa* L.; *Avena nuda* L.; fatty acid composition; atherogenic and
16 thrombogenic indices.

17

18 **Abbreviations:** AI, atherogenicity index; FA, fatty acid; MUFA, monounsaturated fatty
19 acids; PUFA, polyunsaturated fatty acids; SFA, saturated fatty acids; TI, thrombogenicity
20 index

21

22 Abstract

23 Oat is a cereal with a long history of cultivation and great importance in human nutrition, not
24 only because of its starch and protein content, but also because of its substantial fat content
25 with a relatively high proportion of unsaturated fatty acids. The fat content, fatty acid
26 composition, and nutritional value of six new oat cultivars were evaluated. Total fat content
27 ranged from 2.9 g/100 g (Korok) to 6.1 g/100 g of sample (Kamil). Naked oat cultivars had
28 significantly higher fat content than hulled oat cultivars ($p < 0.0001$). The most abundant fatty
29 acids in all tested oat cultivars were linoleic (34.6–38.2%), oleic (30.7–32.2%), and palmitic
30 acid (21.4–22.7%). Naked cultivars had significantly higher amounts of linoleic ($p_{yellow} =$
31 0.0125 , $p_{black} = 0.0472$) and lower amounts of palmitic acid ($p_{yellow} = 0.0019$, $p_{black} = 0.0031$)
32 than hulled oat cultivars. All analysed oat samples had low atherogenic (0.17–0.19) and
33 thrombogenic indices (0.30–0.34). These findings indicate that the tested new cultivars could

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