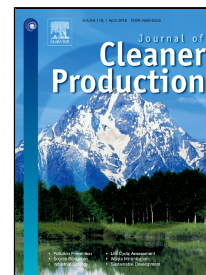


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Components of feed affecting water footprint of feedlot dairy farm systems in the Northern China



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1 **Components of feed affecting water footprint of feedlot dairy farm systems in the**
2 **Northern China**

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13 **Abstract:** Freshwater consumption in animal agriculture is a significant factor
14 affecting water resources and water environmental sustainability. Water footprint
15 (WF), as a comprehensive assessment indicator, can be used to assess the
16 consumptive water use in the dairy sector. The aim of this study was to assess the
17 effects of feed components on the water consumption and WF of milk production for
18 collective feedlot systems in China. Fourteen dairy farms, with a range of dairy cow
19 numbers, were used as examples for the analysis. The results indicated that the
20 average WF of milk was 882 L kg⁻¹ FPCM (fat-and-protein-corrected milk), ranging
21 from 639 to 1,307 L kg⁻¹ FPCM. The WF from Chinese wildrye hay, maize grain,
22 alfalfa hay and soybean meal production accounted for 30.4 %, 16.4 %, 14.5 % and
23 10.9 % of the total WF, respectively, whereas the WF from embedded in animal
24 products, respiratory vapour losses and other service water was 11.4 %, implying that

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