

## **Current enrichment materials fail to address the cognitive potential of pigs**

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Under free-range conditions pigs experience numerous challenges, such as finding food in all seasons and fleeing from threats. In order to successfully master these challenges, pigs possess a wide array of behavioural strategies and cognitive skills. However, modern intensive pig husbandry systems are characterised by a predominant focus on production efficiency, resulting in stimulus-poor housing environments that offer few opportunities for the pig to display species-specific behaviours and to utilise their cognitive abilities. In the EU legislation has been developed to mitigate the main negative welfare consequences. EC Directive 2001/93 prescribes that pigs must have permanent access to a sufficient quantity of material to enable proper investigation and manipulation activities. In most EU countries this has been implemented as providing a chain with a piece of plastic. In Denmark natural materials are obligatory that reach till floor level, often a piece of wood hanging on a metal chain. Organic pigs generally receive straw. The objective of this contribution is to describe the implementation of this prescription about enrichment materials in relation to the pigs' cognitive capacities. Most enrichment materials provide some kind of stimulation to the pigs, mostly emphasising the physical expression of exploration (animal-material interaction time). In addition, most or all materials trigger operant and classical learning processes to a very limited degree. This is true, even for the 'best' materials such as straw. We conclude that at present pigs in both intensive and organic farming do not get what they need to express their cognitive capacities. Further improvements towards sustainable pig farming requires more attention to the cognitive functioning of pigs and the design of enrichment materials, either through (re-)creating natural conditions or through more artificial ways, in order to provide in the pigs' need for experiencing cognitive challenges.