

The Hungry Cow

History and provenance

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The grazing-goat family

Changing the cow to a goat gives a familiar *grazing-goat problem*: find a tether length that permits access to a specified area. Nick Berry's 2016 exposition analyzes the circle-overlap version [1].

A historical account by Steve Nadis discusses eighteenth-century grazing problems and later work on exact formulations [2]. Care is needed here: old versions include animals tethered *outside* a circular enclosure, while this page places the cow *inside* the pen. Those are not interchangeable geometries.

What can safely be claimed

The problem belongs to a long-running geometric puzzle family. I did not establish that this exact inside-the-pen, half-the-area version first appeared in 1748, nor did I identify its original author. The older date should not be attached to this precise wording without that additional evidence.

The accompanying solution uses the overlap of two disks and a numerical root. The animal's identity has no mathematical effect under the stated point-animal idealization.

Sources

- [1] Nick Berry, Grazing Goat, DataGenetics (November 2016).
<https://datagenetics.com/blog/november42016/index.html>
- [2] Steve Nadis, After Centuries, a Seemingly Simple Math Problem Gets an Exact Solution, Quanta Magazine (December 9, 2020).
<https://www.quantamagazine.org/after-centuries-a-seemingly-simple-math-problem-gets-an-exact-solution-20201209/>

Sources checked September 7, 2026. A documented appearance is not necessarily the earliest appearance.