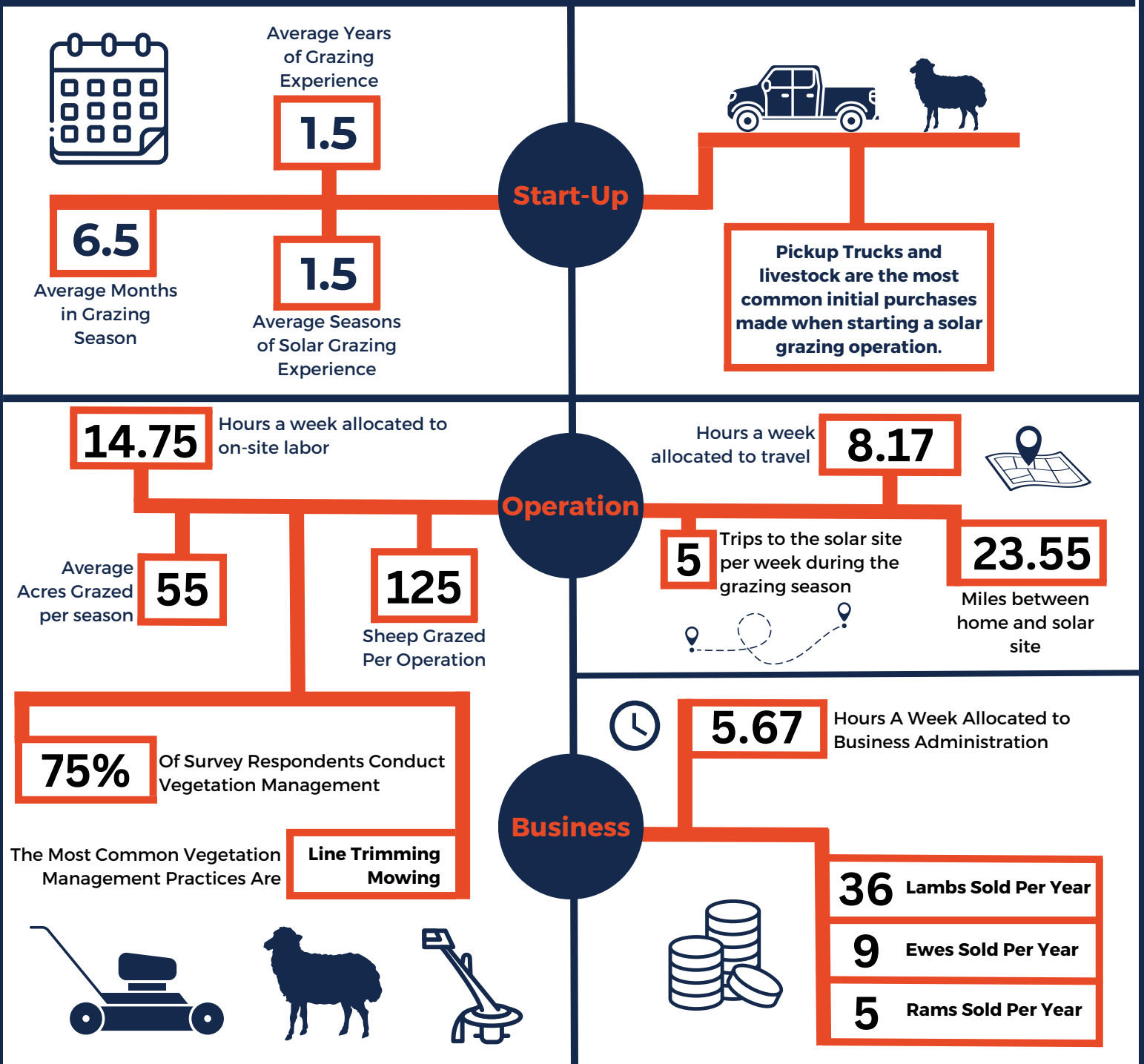




The Economics of Solar Grazing

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Introduction

Solar grazing—the act of grazing livestock, typically sheep, on land with solar arrays—is an increasingly popular agrivoltaic practice in the United States. [Maps from the National Renewable Energy Laboratory \(NREL\)](#) show solar grazing on 64 installations, encompassing 24,500 acres of land (about the area of Manhattan), with a total capacity of 3,200 megawatts. Solar grazing has the potential to improve support for solar energy; [Pascaris et. al \(2022\)](#) found 81.8% of respondents in their survey of two U.S. counties would be more likely to support solar development in their area if it included the co-location of agriculture. Solar grazing also has the potential to protect



sheep by providing shade and cover ([Andrew et al \(2021\)](#)). Previous literature on the economic attributes of solar grazing in found that solar grazing provides a range of net incomes to farms depending on location, with \$509 per acre common in New York while \$262 per acre is more common in the broader eastern United States ([Kochendoerfer et al \(2021\)](#)). As the industry continues to grow, it is necessary to garner an understanding of the costs and revenues associated with solar grazing to provide prospective practitioners with knowledge to ensure financial success. This fact sheet contributes to a better understanding of the economics of solar grazing by surveying current solar grazing practitioners on the various sources of cost and income that are associated with their operation.

Methodology



The [Bock Agricultural Law & Policy Program at the University of Illinois](#) conducted a survey of solar grazing practitioners via Qualtrics software from January-May 2023. The Bock Program circulated the survey through publication on the [American Solar Grazing Association](#) member forum and the [Agrisolar Clearinghouse blog page](#). To encourage participation, respondents were offered a \$5 Amazon gift card as compensation for taking the survey. This survey builds upon previous work by Kochendoerfer et al (2021), which surveyed different stakeholders involved with solar site maintenance, including solar grazers, to better understand the economic

feasibility of solar grazing. Sample solar grazing budgets provided by Kochendoerfer et al (2021), [North Carolina Choices](#), and [EDF Renewables' study of solar grazing feasibility in Mount Morris, New York](#) provided the basis for the questions asked in the survey. The Mount Morris study focused on two different scenarios for grazing sheep on a 1060-acre site to yield operating expenses and profits for a solar grazing operation. The North Carolina Choices budget is a tool for prospective solar grazers to identify what capital investments and variable costs entering the solar grazing market may entail. The research team compared the budgets to determine commonly cited tools, insurance, and labor needed for solar grazing operations. Items found within all three budgets were used to formulate survey questions, as well as a few items that appeared in only one or two of the respective budgets. This factsheet comprises the results of the Bock Program's solar grazing survey and aims to provide further information of what costs and revenues will be incurred by an active solar grazing operation.