

# CARBON EFFICIENCY AND FOOTPRINT COMPARISON FOR VARIOUS FARMING SYSTEMS



We hypothesized that doing a simple calculation with farmers will improve their knowledge and approach to a more sustainable production system

7%

*Sheep and Goats importantly contribute to climate change through enteric methane emissions and manure management.*



## EFFECTIVE MANAGEMENT SYSTEMS TO REDUCE GHG EMISSION

This innovation case study aimed to calculate the carbon footprint for the different sheep and goat farming systems. The contribution of the small ruminant sector to greenhouse gas (GHG) emissions has been estimated equivalent to 474 million tonnes CO<sub>2</sub>-eq. These total emissions from the sheep and goat production comprise emissions from production of edible (meat and milk) and non-edible products (natural fibre), as well as emissions from post farm gate processes. Therefore, it is of crucial importance to determine the carbon footprint of different production systems for a more sustainable farming for future reference.



# CARBON EFFICIENCY AND FOOTPRINT COMPARISON FOR VARIOUS FARMING

## AWARENESS OF CLIMATE CHANGE

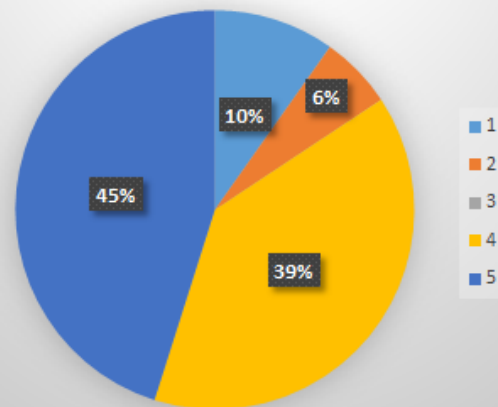
### FARMER SURVEY

Data in this study were collected from 51 small ruminant (28 sheep and 23 goat) breeders in Nigde and Hatay provinces in Turkey. A structured survey (face to face) was used for obtaining the sheep and goat breeders' views about the climatic change. The survey consisted of demographics and questions (in 5 point Likert scale format: 1: strongly disagree, 2: disagree, 3: undecided, 4: agree, 5: strongly agree) related to climate change. Descriptive statistics and Chi-square test of data were analysed using by SPSS program.



### A WORKSHOP ON CLIMATE CHANGE

Ratio of Likert Scale for 51 small ruminant breeders



## EVERYONE CAN DO SOMETHING TO REDUCE THE EFFECTS OF CLIMATE CHANGE

### FARM EXPERIMENT

The mean age of the breeders surveyed was 44.14 years (range 19-68 years old); education status of the breeders was 15.7% literate, 60.0% primary school, 19.6% high school and 3.9% university graduated; duration of small ruminant breeding were 37.3% during 0-10 years, 25.5% during 11-20 years and 37.3% during 21+ years.

## CLIMATE CHANGE REPRESENTS A CRITICAL CHALLENGE TO HUMANITY

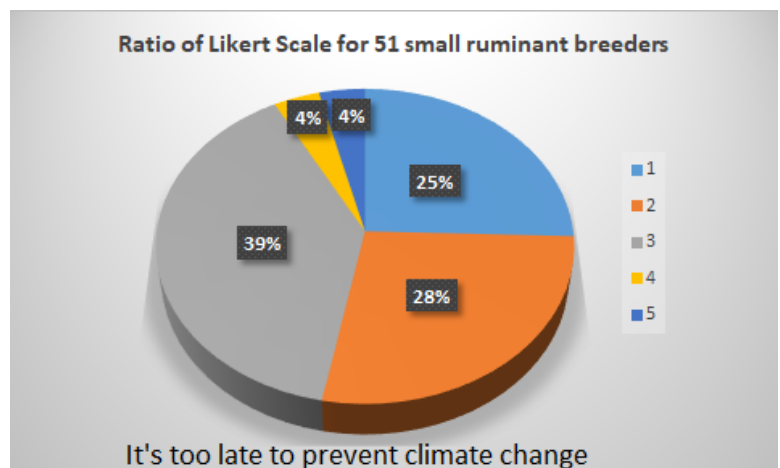
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## DO YOU KNOW HOW TO DECREASE YOUR FARM'S CARBON FOOTPRINT ?

### CARBON FOOTPRINT

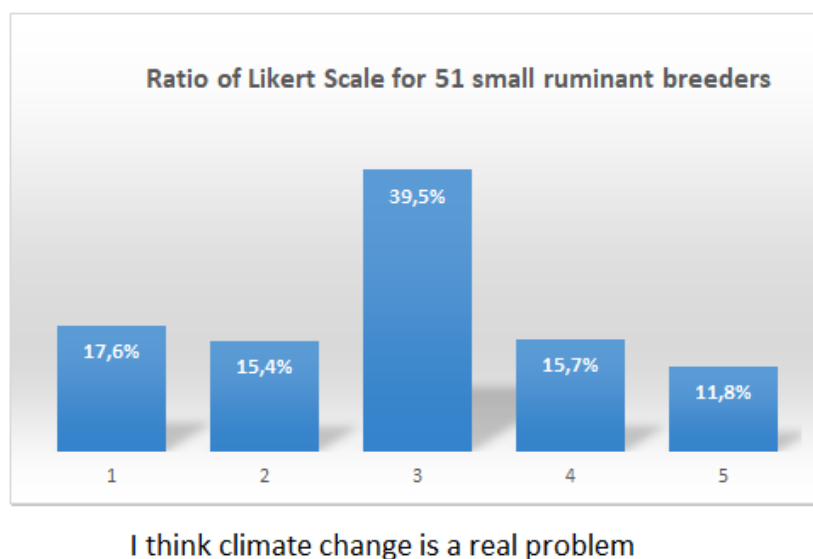
*Carbon footprint delivers viable labeling for consumer purchasing decisions and, most importantly, rises awareness of the influence of food production in GHG emissions to nature.*

*Media discussion and society's acknowledgment about livestock production and its impact on climate change can help to reduce and mitigate GHG emissions through carbon footprint assessment.*



### GREENHOUSE GASES MANAGEMENT

The carbon footprint for depends on the management system, as the grazing system has different value and measurement parameters from the on-farm feeding system



## GOAT AND SHEEP FARMING HAVE A LOWER EFFECT ON GREENHOUSE GASES EMISSION'S THAN CATTLE FARMING

# CARBON EFFICIENCY AND FOOTPRINT COMPARISON FOR VARIOUS FARMING

## ROLE OF SHEEP IN THE EMISSION OF GHGS

The mitigation of GHG emissions is obligatory even at this low gas emitting farm level to preserve nature and atmospheric temperature. Although the growing population demands much agricultural food, we should use a proper management system to minimize the emission of GHGs and favour healthy life. The basic goal of this study was to alert about the GHG emissions caused by sheep farming and be ready to adopt each and every step to diminish them by developing a sound management system. The world temperatures and microbial load are to increase with these GHG emissions, and they are dangerous for human health.

## CHANGE ANIMAL FEEDING AND MANAGEMENT TO DIMINISH GHG EMISSIONS



1

Adapting Sheep and Goat Production to Climate Change

2

The basic goal of this study was to alert about the GHG emissions of caused by sheep farming and to be ready to adopted each and every step to diminish them by developing a sound management system

3

Age groups were not an effective factor the breeders' view of climatic change

4

Education and breeding types have a significant effect on climate change, according to the opinion of small ruminant breeders

*THE GROWING POPULATION DEMANDS MUCH AGRICULTURAL FOOD*

*SO WE SHOULD USE A PROPER MANAGEMENT TO MINIMIZE GHG EMISSIONS AND LIVE HEALTHIER LIFE*

**THANKS:** To the breeders, association and participating farmers

**WRITING:** Ethem Akyol, Ayhan Ceyhan, Adnan Ünalán (OHU, NIĞDE)

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