



Resource use and Emissions

A summary of emissions from carbon dioxide, methane and nitrous oxide for the whole farm and per enterprise is presented below. Total emissions are also expressed per unit of output, per hectare and per livestock unit equivalent to allow comparisons to be made. Per unit of output is the most common way to express emissions associated with the production of food products.

Details of where the emissions came from can be seen by selecting View detailed results.

If you have created other reports or scenarios for your farm, you can view the results by selecting another report from the Quickjump to another report drop down list.

If you wish to compare resource use and emissions to the results from the previous two years, or to another scenario select the Comparisons and Year on Year Results from the Results menu on the left hand side of the page. Pie and bar charts of the results can also be found by selecting Charts from the same Results menu.

Examples of practical measures to improve efficiency and reduce emissions are shown at the foot of the page.

Summerley - Draft Report - SAC copy (Summerley Hall Fruit Farm 2021)

[View summary results](#)
[View without Soil Carbon results](#)

		Whole Farm	Beef
		kg CO ₂ e	kg CO ₂ e
CARBON DIOXIDE			
Direct Emissions	Diesel ⁽¹⁾	4,058	4,058
	Electricity ⁽¹⁾	743	743
	Other fuels ⁽¹⁾	2,512	2,512
	Renewable electricity ⁽¹⁾	0	0
	Renewable heat ⁽¹⁾	0	0
	Direct CO₂	7,314	7,314
Direct & Indirect emissions (embedded in purchased inputs)	Fertiliser	0	0
	Lime	0	0
	Biochar	0	0
	Feed	4,344	4,344
	Bedding	3,630	3,630
	Pesticides	0	0
	Waste plastic / packaging	0	0
	Disposal of carcasses	0	0
	Transport	0	0
	Indirect CO₂ (inc. Biochar)	7,974	7,974
	Total CO₂ from energy & waste (inc. Biochar)	15,288	15,288
METHANE			
Enteric	Fermentation (feed digestion)	75,048	75,048
	Manure mgmt	1,661	1,661
	Total CO₂e from methane	76,709	76,709
NITROUS OXIDE			
Volatilisation, leaching & run-off	Inorganic and imported organic manure input to soil	3,490	3,490
	Grazing deposition, manure management and organic manure input to soil	24,485	24,485

Vegetation, stubble & roots	Crop N residues	492	492
	Total CO_{2e} from nitrous oxide	28,467	28,467
Total CO_{2e} emissions from farming		120,463	120,463
CARBON SEQUESTRATION			
	Soil carbon	-146,967	-146,967
	Biochar	0	0
	Total CO_{2e} from soil carbon sequestration	-146,967	-146,967
Total CO_{2e} emissions from farming (inc. Soil Carbon)		-26,504	-26,504
Sequestration by forestry	(kg CO_{2e})	70,567	
Net emissions from land use (inc SoilCarbon)		-97,071	
Whole farm CO_{2e} emissions per kg of farm output (inc. Soil Carbon)	(KgCO_{2e}/kg output) ⁽²⁾	-8.48	
Product CO_{2e} emissions			
Meat (inc. Soil Carbon)	Total KgCO_{2e}		-26,504
	(KgCO_{2e}/kg lwt)		-4.49
	(KgCO_{2e}/kg dwt)		-8.48
Wool (inc. Soil Carbon)	Total KgCO_{2e}		
	(KgCO_{2e}/kg wool)		
Milk (inc. Soil Carbon)	Total KgCO_{2e}		
	(KgCO_{2e}/kg FPC milk) ⁽³⁾		
Eggs (inc. Soil Carbon)	Total KgCO_{2e}		
	(KgCO_{2e}/kg eggs)		
Forage, grain, seeds, roots (inc. Soil Carbon)	Total KgCO_{2e}		
	(KgCO_{2e}/kg crop)		
Straw (inc. Soil Carbon)	Total KgCO_{2e}		
	(KgCO_{2e}/kg straw)		
Emissions per LU equivalent (inc. Soil Carbon)	(KgCO_{2e}/LU)	0	-1,109
Emissions per hectare (inc. Soil Carbon)	(KgCO_{2e}/ha)	-726	-726
Farm and enterprise output	(Kg)	3,127	3,127

(1) - Power for farming activity (excludes personal and household demand)

(2) - Beef, sheep, dairy, pig & poultry meat expressed per net kg dwt of cold carcasse; milk expressed per kg FPC milk, poultry eggs expressed per kg, crops and straw expressed per kg

(3) - Fat protein corrected (FPC) milk

Practical Measures To Improve Efficiency And Reduce Emissions

Energy and fuels

Install smart meter to monitor electricity use, assess efficiency of equipment and activities, use thermostats, time clocks, motion sensors and low energy bulbs, increase lagging on hot water pipes.

Record fuel use per tractor and activity, assess efficiency of vehicles and operations, undertake regular machinery checks and maintenance, use correct tyre pressure, improve journey planning.

Renewable energy

Undertake an energy audit to investigate the scope for renewable activities, such as wind, solar or hydro-electric power, anaerobic digesters, ground source heat pumps, biomass.

Fertiliser and manure

Prepare a farm nutrient management plan to identify opportunities for better utilisation of organic and inorganic fertiliser, analyse soil and organic manure, apply nitrogen at optimum rate and timing for crops, maintain or increase clover content of swards or other legume crops.

Livestock management

Carry out technical benchmarking of farm performance to highlight scope for improvements, increase calving or lambing percentage, reduce mortalities, increase weaning percentage, reduce age of calving, regularly review animal health plans, analyse silage or other homegrown forage.

Locking carbon into the soil

Protect peatland and moorland from damage by avoiding over grazing, consider reduced tillage and ploughing in stubble and other crop residues, control soil erosion, create wildlife corridors along water margins, field margins and headlands, retain and conserve semi-natural grasslands, manage existing woodlands on farm and create new ones.

Further information

Technical advice should be sought before making any business changes. Further information about SRUC services or to find your local office, please visit the page: http://www.sruc.ac.uk/info/20005/sac_consulting (opens in a new tab / window)

For further information and advice on practical measures you can implement to reduce emissions and improve the efficiency of your business can be found in the Practical Guides on the Farming for A Better Climate section of SRUC's website. These can be accessed by visiting the page: http://www.sruc.ac.uk/downloads/120198/improve_farm_efficiency (opens in a new tab / window)