Supplementary Information

Table S1. Effect of low *versus* high GI/GL diets on additional markers of glucose homeostasis.

Trial	Reference	Outcome Variables	Effect	*p*-Value
1	Shikany 2009 [12]	Insulin sensitivity index (Si)	↔	0.55
		Glucose effectiveness (Sg)	↔	0.36
		Acute insulin response to glucose (AIRg)	↔	0.19
		Intravenous glucose tolerance (Kg)	↔	0.99
2	Hartman 2010 [13]	*C*-peptide (*n* = 64)	↔	0.33
		C-peptide (*n* = 36 IS)	↓	0.05
		C-peptide (*n* = 28 IR)	↔	0.41
3	Runchey 2012 [15]	Insulin-like growth factor-1 (IGF-1), (*n* = 80)	↓	0.04
		IGF-1 (*n* = 29 LBF)	↔	0.33
		IGF-1 (*n* = 53 HBF)	↔	0.12
		IGF-binding protein-3 (IGFBP-3), (*n* = 80)	↔	0.75
		IGFBP-3 (*n* = 29 LBF)	↔	0.29
		IGFBP-3 (*n* = 53 HBF)	↔	0.21
3	Runchey 2012 [16]	Glucagon-like peptide (GLP-1), (*n* = 16)	↔	0.50
		GLP-1 (*n* = 6 LBF)	↔	0.87
		GLP-1 (*n* = 10 HBF)	↔	0.25
		Glucose-dependent insulinotropic polypeptide (GIP), (*n* = 16)	↔	0.22
		GIP (*n* = 6 LBF)	↔	0.66
		GIP (*n* = 10 HBF)	↔	0.28
5	Solomon 2010 [19]	Fasting plasma glucose appearance rate (Basal Ra)	↔	0.51
		Insulin-stimulated rate of plasma glucose disappearance (Insulin Rd)	↔	0.31
		Fasting *C*-peptide	↔	0.09
		Insulin resistance (IR)	↔	>0.05
		Fasting insulin secretion rate (Basal ISR)	↓	0.02
		Oral glucose tolerance test ISR_{AUC} (OGTT-ISR_{AUC})	↓	0.02
		OGTT-*C*-peptide	↓	<0.05
		OGTT-GIP	↓	<0.05
5	Malin 2011 [21]	2-h Glucose	↔	≤0.39
		2-h Insulin	↔	≤0.21
		Non-esterified fatty acids (NEFA)	↔	≤0.22
		% Carbohydrate utilization	↔	≤0.10
		% Lipid utilization	↔	≤0.10
		Clamp-glucose disposal rate divided by insulin (c-GDRI)	↔	≤0.95
		c-Insulin	↔	≤0.58
		c-non-oxidative glucose disposal (c-NOGD)	↔	≤0.13
		c-% Carbohydrate utilization	↔	≤0.98
		c-% Lipid utilization	↔	≤0.98
		c-NEFA	↔	≤0.12
		c -% NEFA suppression	↔	≤0.06

Numbers in the first column indicate unique trials; publications with the same number indicate same trial; GI, glycemic index; GL, glycemic load; ↓, significantly decreased compared to high GI/GL diet; ↔, non significant effect of low compared to high GI/GL diet; IS, insulin sensitive; IR, insulin resistant; LBF, low body fat; HBF, high body fat; AUC, area under the curve.

Table S2. Effect of low *versus* high GI/GL diets on additional variables.

Trial	Reference	Outcome Variables	Effect	*p*-Value
1	Shikany 2009 [12]	Tumor necrosis factor alpha receptor II (TNF-RII)	↔	0.72
		Plasminogen activator inhibitor-1 (PAI-1)	↔	0.93
		Fibrinogen	↔	0.93
2	Hartman 2010 [13]	Soluble TNFα receptor I (sTNF-RI), (*n* = 64)	↔	0.69
		sTNFRI (*n* = 36 IS)	↔	0.82
		sTNFRI (*n* = 28 IR)	↔	0.75
		soluble TNFα receptor II (sTNF-RII), (*n* = 64)	↔	0.58
		sTNFRII (*n* = 36 IS)	↔	0.87
		sTNFRII (*n* = 28 IR)	↔	0.30
3	Neuhouser 2012 [17]	Serum amyloid A (SAA), (*n* = 80)	↔	0.46
		SAA (*n* = 29 LBF)	↔	0.20
		SAA (*n* = 52 HBF)	↔	0.50
		Leptin (*n* = 80)	↔	0.49
		Leptin (*n* = 29 LBF)	↔	0.90
		Leptin (*n* = 52 HBF)	↔	0.13
		Adiponectin (*n* = 80)	↔	0.30
		Adiponectin (*n* = 29 LBF)	↔	0.50
		Adiponectin (*n* = 52 HBF)	↔	0.06
5	Solomon 2010 [19]	Very low density lipoprotein (VLDL) cholesterol	↔	0.80
5	Kelly 2011 [20]	Mononuclear cell (MNC) TNFa	↓	<0.01
		MNC interleukin-6 (IL-6)	↔	>0.05
		Monocyte chemoattractant protein-1 (MCP-1)	↔	0.07

Numbers in the first column indicate unique trials; publications with the same number indicate same trial; GI, glycemic index; GL, glycemic load; ↓, significantly decreased compared to high GI/GL diet; ↔, non significant effect of low compared to high GI/GL diet.

Table S3. Effect of low *versus* high GI/GL diets on postprandial variables of glucose homeostasis.

Trial	Reference	Outcome variables *	Effect	*p*-Value
3	Runchey 2012 [15]	Glucose (*n* = 20)	↓	<0.01
		Glucose (*n* = 8 LBF)	↔	0.08
		Glucose (*n* = 12 HBF)	↓	<0.01
		Insulin (*n* = 20)	↓	<0.01
		Insulin (*n* = 8 LBF)	↓	<0.01
		Insulin (*n* = 12 HBF)	↓	<0.01
		Insulin-like growth factor-1, IGF-1 (*n* = 20)	↔	0.79
		IGF-1 (*n* = 8 LBF)	↔	0.94
		IGF-1 (*n* = 12 HBF)	↔	0.69
		IGF-binding protein-3, IGFBP-3 (*n* = 20)	↔	0.15
		IGFBP-3 (*n* = 8 LBF)	↔	0.79
		IGFBP-3 (*n* = 12 HBF)	↔	0.11
3	Runchey 2012 [16]	Glucose (*n* = 16)	↓	<0.01
		Glucose (*n* = 6 LBF)	↓	<0.01
		Glucose (*n* = 10 HBF)	↓	<0.01
		Insulin (*n* = 16)	↓	<0.01
		Insulin (*n* = 6 LBF)	↓	<0.01
		Insulin (*n* = 10 HBF)	↓	<0.01
		Glucagon-like peptide 1, GLP-1 (*n* = 16)	↑	0.03
		GLP-1 (*n* = 6 LBF)	↔	0.27
		GLP-1 (*n* = 10 HBF)	↑	0.03
		Glucose-dependent insulinotropic polypeptide, GIP (*n* = 16)	↓	<0.01
		GIP (*n* = 6 LBF)	↓	<0.01
		GIP (*n* = 10 HBF)	↓	0.03

* All values represent incremental area under the curve. Numbers in the first column indicate unique trials; publications with the same number indicate same trial; GI, glycemic index; GL, glycemic load; ↑ or ↓, significantly increased or decreased compared to high GI/GL diet; ↔, non significant effect of low compared to high GI/GL diet; LBF, low body fat; HBF, high body fat.