

## Tabla de dimensionamiento

BOVINOS en clima cálido (>23° C)								
Modelo Biobolsa	Sólidos de estiércol (L/día)	Cabezas semi estabulado	Prod. de Biogás (m <sup>3</sup> /día)*	Prod. de Biogás (horas/día)**	Prod. de Biogás Equiv. en Gas LP (kg/mes)	Con motogenerador (kWh/día)	Prod. de Biol (ha/año)	Prod. de Biol (L/día)
BB4-t	30	3	1.2	2	14	2.4	4	120
BB4	36	4	1.4	3	17	2.9	5	144
BB6	52	5	2.1	4	25	4.2	7	208
BB8	85	9	3.4	7	41	6.8	12	340
BB10	97	10	3.9	8	47	7.8	14	388
BB12	109	11	4.4	9	52	8.7	15	436
BB14	125	12	5.0	10	60	10.0	17	499
BB16	170	17	6.8	14	82	13.6	24	680
BB20	194	19	7.8	16	93	15.5	27	776
BB25	219	22	8.8	18	105	17.5	31	876
BB30	267	27	10.7	21	128	21.4	37	1068
BB40	364	36	14.6	29	175	29.1	51	1456
BB50	437	44	17.5	35	210	35.0	61	1748
BB60	534	53	21.4	43	256	42.7	75	2136
BB80	729	73	29.2	58	350	58.3	102	2916
BB120	1093	109	43.7	87	525	87.4	153	4372
BB160	1457	146	58.3	117	699	116.6	204	5828
BB200	1821	182	72.8	146	874	145.7	255	7284

Otras especies*** en clima cálido (>23° C)								
Modelo Biobolsa	Sólidos de estiércol (L/día)	Cabezas de cerdos (50 kg)	Prod. de Biogás (m <sup>3</sup> /día)*	Prod. de Biogás (horas/día)**	Prod. de Biogás Equiv. en Gas LP (kg/mes)	Con motogenerador (kWh/día)	Prod. de Biol (ha/año)	Prod. de Biol (L/día)
BB4-t	20	12	1.2	2	14	2.4	4	120
BB4	24	15	1.4	2	17	2.9	5	144
BB6	34	21	2.0	3	24	4.1	7	203
BB8	57	35	3.4	5	41	6.8	12	342
BB10	65	40	3.9	5	47	7.8	14	390
BB12	73	45	4.4	6	53	8.8	15	438
BB14	83	52	5.0	7	60	10.0	17	499
BB16	113	70	6.8	9	81	13.6	24	678
BB20	130	81	7.8	10	94	15.6	27	780
BB25	146	91	8.8	12	105	17.5	31	876
BB30	178	110	10.7	14	128	21.4	37	1068
BB40	243	151	14.6	19	175	29.2	51	1458
BB50	291	181	17.5	23	210	34.9	61	1746
BB60	356	221	21.4	28	256	42.7	75	2136
BB80	486	302	29.2	39	350	58.3	102	2916
BB120	729	452	43.7	58	525	87.5	153	4374
BB160	971	602	58.3	78	699	116.5	204	5826
BB200	1214	753	72.8	97	874	145.7	255	7284

BOVINOS en clima templado (15°C to 23° C)								
Modelo Biobolsa	Sólidos de estiércol (L/día)	Cabezas semi estabulado	Prod. de Biogás (m <sup>3</sup> /día)*	Prod. de Biogás (horas/día)**	Prod. de Biogás Equiv. en Gas LP (kg/mes)	Con motogenerador (kWh/día)	Prod. de Biol (ha/año)	Prod. de Biol (L/día)
BB4	24	2	0.9	2	11	1.9	3	95
BB6	34	3	1.4	3	16	2.7	5	135
BB8	56	6	2.2	4	27	4.4	8	222
BB10	64	6	2.5	5	31	5.1	9	255
BB12	72	7	2.9	6	34	5.7	10	287
BB14	83	8	3.3	7	40	6.6	12	332
BB16	111	11	4.4	9	53	8.9	16	445
BB20	127	13	5.1	10	61	10.2	18	510
BB25	145	14	5.8	12	69	11.6	20	579
BB30	177	18	7.1	14	85	14.2	25	708
BB40	242	24	9.7	19	116	19.3	34	967
BB50	289	29	11.6	23	139	23.1	41	1157
BB60	354	35	14.2	28	170	28.3	50	1416
BB80	484	48	19.3	39	232	38.7	68	1934
BB120	725	73	29.0	58	348	58.0	102	2901
BB160	967	97	38.7	77	464	77.4	135	3869
BB200	1209	121	48.4	97	580	96.7	169	4836

Otras especies*** en clima templado (15°C to 23° C)								
Modelo Biobolsa	Sólidos de estiércol (L/día)	Cabezas de cerdos (50 kg)	Prod. de Biogás (m <sup>3</sup> /día)*	Prod. de Biogás (horas/día)**	Prod. de Biogás Equiv. en Gas LP (kg/mes)	Con motogenerador (kWh/día)	Prod. de Biol (ha/año)	Prod. de Biol (L/día)
BB4	16	10	0.9	1	11	1.9	3	95
BB6	23	14	1.4	2	16	2.7	5	135
BB8	37	23	2.2	3	27	4.4	8	222
BB10	42	26	2.5	3	31	5.1	9	255
BB12	48	30	2.9	4	34	5.7	10	287
BB14	55	34	3.3	4	40	6.6	12	332
BB16	74	46	4.4	6	53	8.9	16	445
BB20	85	53	5.1	7	61	10.2	18	510
BB25	96	60	5.8	8	69	11.6	20	579
BB30	118	73	7.1	9	85	14.2	25	708
BB40	161	100	9.7	13	116	19.3	34	967
BB50	193	120	11.6	15	139	23.1	41	1157
BB60	236	146	14.2	19	170	28.3	50	1416
BB80	322	200	19.3	26	232	38.7	68	1934
BB120	484	300	29.0	39	348	58.0	102	2901
BB160	645	400	38.7	52	464	77.4	135	3869
BB200	806	500	48.4	64	580	96.7	169	4836

BOVINOS en clima frío (<15° C)								
Modelo Biobolsa	Sólidos de estiércol (L/día)	Cabezas semi estabulado	Prod. de Biogás (m <sup>3</sup> /día)*	Prod. de Biogás (horas/día)**	Prod. de Biogás Equiv. en Gas LP (kg/mes)	Con motogenerador (kWh/día)	Prod. de Biol (ha/año)	Prod. de Biol (L/día)
BB4	14	1	0.6	1	7	1.1	2	57
BB6	20	2	0.8	2	10	1.6	3	81
BB8	33	3	1.3	3	16	2.7	5	133
BB10	38	4	1.5	3	18	3.1	5	153
BB12	43	4	1.7	3	21	3.4	6	172
BB14	50	5	2.0	4	24	4.0	7	199
BB16	67	7	2.7	5	32	5.3	9	267
BB20	76	8	3.1	6	37	6.1	11	306
BB25	87	9	3.5	7	42	6.9	12	347
BB30	106	11	4.2	8	51	8.5	15	425
BB40	145	15	5.8	12	70	11.6	20	580
BB50	174	17	6.9	14	83	13.9	24	694
BB60	212	21	8.5	17	102	17.0	30	850
BB80	290	29	11.6	23	139	23.2	41	1161
BB120	435	44	17.4	35	209	34.8	61	1741
BB160	580	58	23.2	46	279	46.4	81	2321
BB200	725	73	29.0	58	348	58.0	102	2901

Otras especies*** en clima frío (<15° C)								
Modelo Biobolsa	Sólidos de estiércol (L/día)	Cabezas de cerdos (50 kg)	Prod. de Biogás (m <sup>3</sup> /día)*	Prod. de Biogás (horas/día)**	Prod. de Biogás Equiv. en Gas LP (kg/mes)	Con motogenerador (kWh/día)	Prod. de Biol (ha/año)	Prod. de Biol (L/día)
BB4	9	6	0.6	1	7	1.1	2	57
BB6	14	8	0.8	1	10	1.6	3	81
BB8	22	14	1.3	2	16	2.7	5	133
BB10	25	16	1.5	2	18	3.1	5	153
BB12	29	18	1.7	2	21	3.4	6	172
BB14	33	21	2.0	3	24	4.0	7	199
BB16	44	28	2.7	4	32	5.3	9	267
BB20	51	32	3.1	4	37	6.1	11	306
BB25	58	36	3.5	5	42	6.9	12	347
BB30	71	44	4.2	6	51	8.5	15	425
BB40	97	60	5.8	8	70	11.6	20	580
BB50	116	72	6.9	9	83	13.9	24	694
BB60	142	88	8.5	11	102	17.0	30	850
BB80	193	120	11.6	15	139	23.2	41	1161
BB120	290	180	17.4	23	209	34.8	61	1741
BB160	387	240	23.2	31	279	46.4	81	2321
BB200	484	300	29.0	39	348	58.0	102	2901

\* La producción de biogás es un estimado promedio basado en un uso de biodigestor estándar

\*\* La producción de biogás es variable dependiendo de condiciones a las que el sistema opere.

## Sizing Table

Warm weather dairies >23°C

Biobolsa Model	Solids treated per day (L)	Semi-confined (heads)	Daily biogas production (m3/day)	Daily biogas production (hours/day)*	Biogas production (kg propane/m onth) **	Electricity generation (kWh/day)	Biol production (ha/year)	Daily biol production (L/day)
BB4-t	30	3	1.2	2.4	14.4	2.4	4	120
BB4	36	4	1.4	2.9	17.3	2.9	5	144
BB6	52	5	2.1	4.2	25.0	4.2	7	208
BB8	85	9	3.4	6.8	40.8	6.8	12	340
BB10	97	10	3.9	7.8	46.6	7.8	14	388
BB12	109	11	4.4	8.7	52.3	8.7	15	436
BB14	125	12	5.0	10.0	59.8	10.0	17	499
BB16	170	17	6.8	13.6	81.6	13.6	24	680
BB20	194	19	7.8	15.5	93.1	15.5	27	776
BB25	219	22	8.8	17.5	105.1	17.5	31	876
BB30	267	27	10.7	21.4	128.2	21.4	37	1068
BB40	364	36	14.6	29.1	174.7	29.1	51	1456
BB50	437	44	17.5	35.0	209.8	35.0	61	1748
BB60	534	53	21.4	42.7	256.3	42.7	75	2136
BB80	729	73	29.2	58.3	349.9	58.3	102	2916
BB120	1093	109	43.7	87.4	524.6	87.4	153	4372
BB160	1457	146	58.3	116.6	699.4	116.6	204	5828
BB200	1821	182	72.8	145.7	874.1	145.7	255	7284

Other warm weather sites >23°C

Biobolsa Model	Solids treated per day (L)	Hogs (50 kg)	Daily biogas production (m3/day)	Daily biogas production (hours/day)*	Biogas production (kg propane/m onth) **	Electricity generation (kWh/day)	Biol production (ha/year)	Daily biol production (L/day)
BB4-t	20	12	1.2	1.6	14.4	2.4	4	120
BB4	24	15	1.4	1.9	17.3	2.9	5	144
BB6	34	21	2.0	2.7	24.3	4.1	7	203
BB8	57	35	3.4	4.6	41.0	6.8	12	342
BB10	65	40	3.9	5.2	46.8	7.8	14	390
BB12	73	45	4.4	5.8	52.6	8.8	15	438
BB14	83	52	5.0	6.6	59.8	10.0	17	499
BB16	113	70	6.8	9.0	81.4	13.6	24	678
BB20	130	81	7.8	10.4	93.6	15.6	27	780
BB25	146	91	8.8	11.7	105.1	17.5	31	876
BB30	178	110	10.7	14.2	128.2	21.4	37	1068
BB40	243	151	14.6	19.4	175.0	29.2	51	1458
BB50	291	181	17.5	23.3	209.5	34.9	61	1746
BB60	356	221	21.4	28.5	256.3	42.7	75	2136
BB80	486	302	29.2	38.9	349.9	58.3	102	2916
BB120	729	452	43.7	58.3	524.9	87.5	153	4374
BB160	971	602	58.3	77.7	699.1	116.5	204	5826
BB200	1214	753	72.8	97.1	874.1	145.7	255	7284

Temperate dairies 15°C to 22°C | other temperate sites 15°C to 22°C

Biobolsa Model	Solids treated per day (L)	Semi-confined (heads)	Daily biogas production (m3/day)	Daily biogas production (hours/day)*	Biogas production (kg propane/m onth) **	Electricity generation (kWh/day)	Biol production (ha/year)	Daily biol production (L/day)
BB4	24	2	0.9	1.9	11.4	1.9	3	95
BB6	34	3	1.4	2.7	16.2	2.7	5	135
BB8	56	6	2.2	4.4	26.7	4.4	8	222
BB10	64	6	2.5	5.1	30.6	5.1	9	255
BB12	72	7	2.9	5.7	34.5	5.7	10	287
BB14	83	8	3.3	6.6	39.9	6.6	12	332
BB16	111	11	4.4	8.9	53.4	8.9	16	445
BB20	127	13	5.1	10.2	61.1	10.2	18	510
BB25	145	14	5.8	11.6	69.4	11.6	20	579
BB30	177	18	7.1	14.2	85.0	14.2	25	708
BB40	242	24	9.7	19.3	116.1	19.3	34	967
BB50	289	29	11.6	23.1	138.9	23.1	41	1157
BB60	354	35	14.2	28.3	169.9	28.3	50	1416
BB80	484	48	19.3	38.7	232.1	38.7	68	1934
BB120	725	73	29.0	58.0	348.2	58.0	102	2901
BB160	967	97	38.7	77.4	464.2	77.4	135	3869
BB200	1209	121	48.4	96.7	580.3	96.7	169	4836

Other temperate sites 15°C to 22°C

Biobolsa Model	Solids treated per day (L)	Hogs (50 kg)	Daily biogas production (m3/day)	Daily biogas production (hours/day)*	Biogas production (kg propane/m onth) **	Electricity generation (kWh/day)	Biol production (ha/year)	Daily biol production (L/day)
BB4	16	10	0.9	1.3	11.4	1.9	3	95
BB6	23	14	1.4	1.8	16.2	2.7	5	135
BB8	37	23	2.2	3.0	26.7	4.4	8	222
BB10	42	26	2.5	3.4	30.6	5.1	9	255
BB12	48	30	2.9	3.8	34.5	5.7	10	287
BB14	55	34	3.3	4.4	39.9	6.6	12	332
BB16	74	46	4.4	5.9	53.4	8.9	16	445
BB20	85	53	5.1	6.8	61.1	10.2	18	510
BB25	96	60	5.8	7.7	69.4	11.6	20	579
BB30	118	73	7.1	9.4	85.0	14.2	25	708
BB40	161	100	9.7	12.9	116.1	19.3	34	967
BB50	193	120	11.6	15.4	138.9	23.1	41	1157
BB60	236	146	14.2	18.9	169.9	28.3	50	1416
BB80	322	200	19.3	25.8	232.1	38.7	68	1934
BB120	484	300	29.0	38.7	348.2	58.0	102	2901
BB160	645	400	38.7	51.6	464.2	77.4	135	3869
BB200	806	500	48.4	64.5	580.3	96.7	169	4836

Cold weather dairies <15°C

Biobolsa Model	Solids treated per day (L)	Semi-confined (heads)	Daily biogas production (m3/day)	Daily biogas production (hours/day)*	Biogas production (kg propane/m onth) **	Electricity generation (kWh/day)	Biol production (ha/year)	Daily biol production (L/day)
BB4	14	1	0.6	1.1	6.8	1.1	2	57
BB6	20	2	0.8	1.6	9.7	1.6	3	81
BB8	33	3	1.3	2.7	16.0	2.7	5	133
BB10	38	4	1.5	3.1	18.3	3.1	5	153
BB12	43	4	1.7	3.4	20.7	3.4	6	172
BB14	50	5	2.0	4.0	23.9	4.0	7	199
BB16	67	7	2.7	5.3	32.0	5.3	9	267
BB20	76	8	3.1	6.1	36.7	6.1	11	306
BB25	87	9	3.5	6.9	41.7	6.9	12	347
BB30	106	11	4.2	8.5	51.0	8.5	15	425
BB40	145	15	5.8	11.6	69.6	11.6	20	580
BB50	174	17	6.9	13.9	83.3	13.9	24	694
BB60	212	21	8.5	17.0	102.0	17.0	30	850

Other cold weather sites <15°C

Biobolsa Model	Solids treated per day (L)	Hogs (50 kg)	Daily biogas production (m3/day)	Daily biogas production (hours/day)*	Biogas production (kg propane/m onth) **	Electricity generation (kWh/day)	Biol production (ha/year)	Daily biol production (L/day)
BB4	9	6	0.6	0.8	6.8	1.1	2	57
BB6	14	8	0.8	1.1	9.7	1.6	3	81
BB8	22	14	1.3	1.8	16.0	2.7	5	133
BB10	25	16	1.5	2.0	18.3	3.1	5	153
BB12	29	18	1.7	2.3	20.7	3.4	6	172
BB14	33	21	2.0	2.7	23.9	4.0	7	199
BB16	44	28	2.7	3.6	32.0	5.3	9	267
BB20	51	32	3.1	4.1	36.7	6.1	11	306
BB25	58	36	3.5	4.6	41.7	6.9	12	347
BB30	71	44	4.2	5.7	51.0	8.5	15	425
BB40	97	60	5.8	7.7	69.6	11.6	20	580
BB50	116	72	6.9	9.3	83.3	13.9	24	694
BB60	142	88	8.5	11.3	102.0	17.0	30	850

## Dimensionamiento de Zanja

Modelo Biobolsa	Zanja/ Trench			chaflán/ Chamfer	
	Largo/ length (m)	Ancho/ Width (m)	Profundo/ Depth (m)	Profundo/ Depth (m)	Alto/ Height (m)
BB4-T	5.0	1.10	0.70	0.3	0.3
BB4	6.0	1.10	0.70	0.3	0.3
BB6-S	8.5	1.10	0.70	0.3	0.3
BB6-D	3.00	2.20	1.20	0.6	0.6
BB8-D	3.50	2.20	1.20	0.6	0.6
BB10-D	4.00	2.20	1.20	0.6	0.6
BB12	4.50	2.20	1.20	0.6	0.6
BB14	5.20	2.20	1.20	0.6	0.6
BB16	6.00	2.20	1.20	0.6	0.6
BB20	7.50	2.20	1.20	0.6	0.6
BB25	9.00	2.20	1.20	0.6	0.6
BB30	11.00	2.20	1.20	0.6	0.6
BB40	15.00	2.20	1.20	0.6	0.6