

DAFTAR PUSTAKA

- Aggarwal, C. C. (2017). An Introduction to Outlier Analysis. Dalam *Outlier Analysis* (hlm. 1–34). Springer International Publishing. https://doi.org/10.1007/978-3-319-47578-3_1
- Bochkovskiy, A., Wang, C.-Y., & Liao, H.-Y. M. (2020). *YOLOv4: Optimal Speed and Accuracy of Object Detection*. <http://arxiv.org/abs/2004.10934>
- Bodla, N., Singh, B., Chellappa, R., & Davis, L. S. (2017). Soft-NMS — Improving Object Detection with One Line of Code. *2017 IEEE International Conference on Computer Vision (ICCV)*, 5562–5570. <https://doi.org/10.1109/ICCV.2017.593>
- BPS. (2022, Juni). *Peternakan Dalam Angka 2022*. Badan Pusat Statistik. <https://www.bps.go.id/publication/2022/06/30/4c014349ef2008bea02f4349/peternakan-dalam-angka-2022.html>
- Chen, R., & Chen, Y. (2023). Improved Convolutional Neural Network YOLOv5 for Underwater Target Detection Based on Autonomous Underwater Helicopter. *Journal of Marine Science and Engineering*, 11(5). <https://doi.org/10.3390/jmse11050989>
- de Myttenaere, A., Golden, B., Le Grand, B., & Rossi, F. (2016). Mean Absolute Percentage Error for regression models. *Neurocomputing*, 192, 38–48. <https://doi.org/10.1016/j.neucom.2015.12.114>
- Dohmen, R., Catal, C., & Liu, Q. (2021). Image-based body mass prediction of heifers using deep neural networks. *Biosystems Engineering*, 204, 283–293. <https://doi.org/https://doi.org/10.1016/j.biosystemseng.2021.02.001>
- El-Amir, H., & Hamdy, M. (2020). Deep Learning Pipeline. Dalam *Deep Learning Pipeline*. Apress. <https://doi.org/10.1007/978-1-4842-5349-6>
-  S., Uchibe, E., & Doya, K. (2018). Sigmoid-weighted linear units for neural network function approximation in reinforcement learning. *Neural Networks*, 107, 3–11. <https://doi.org/10.1016/j.neunet.2017.12.012>

- Gjergji, M., de Moraes Weber, V., Otavio Campos Silva, L., da Costa Gomes, R., Luis Alves Campos de Araujo, T., Pistori, H., & Alvarez, M. (2020). Deep Learning Techniques for Beef Cattle Body Weight Prediction. *2020 International Joint Conference on Neural Networks (IJCNN)*, 1–8. <https://doi.org/10.1109/IJCNN48605.2020.9207624>
- He, K., Zhang, X., Ren, S., & Sun, J. (2014). *Spatial Pyramid Pooling in Deep Convolutional Networks for Visual Recognition*. https://doi.org/10.1007/978-3-319-10578-9_23
- Hu, T., Yan, R., Jiang, C., Chand, N. V., Bai, T., Guo, L., & Qi, J. (2023). Grazing Sheep Behaviour Recognition Based on Improved YOLOv5. *Sensors*, 23(10), 4752. <https://doi.org/10.3390/s23104752>
- LeCun, Y., Bengio, Y., & Hinton, G. (2015). Deep learning. *Nature*, 521(7553), 436–444. <https://doi.org/10.1038/nature14539>
- Li, H., Shi, L., Fang, S., & Yin, F. (2023). Real-Time Detection of Apple Leaf Diseases in Natural Scenes Based on YOLOv5. *Agriculture (Switzerland)*, 13(4). <https://doi.org/10.3390/agriculture13040878>
- Li, T., Sun, M., He, Q., Zhang, G., Shi, G., Ding, X., & Lin, S. (2023). Tomato recognition and location algorithm based on improved YOLOv5. *Computers and Electronics in Agriculture*, 208, 107759. <https://doi.org/10.1016/j.compag.2023.107759>
- Liu, H., Sun, F., Gu, J., & Deng, L. (2022). SF-YOLOv5: A Lightweight Small Object Detection Algorithm Based on Improved Feature Fusion Mode. *Sensors*, 22(15). <https://doi.org/10.3390/s22155817>
- Liu, S., Qi, L., Qin, H., Shi, J., & Jia, J. (2018). *Path Aggregation Network for Instance Segmentation*. <http://arxiv.org/abs/1803.01534>
- Meidina, L., Jaeilani, A., & Zakir, M. I. (2021). Perbandingan Ketepatan Estimasi Berat Badan Jantan dan Betina Pada Sapi Bali (*Bos sondaicus*) Menggunakan Metoda Perhitungan Winter dan Schoorl. *Jurnal Peternakan Indonesia*



(*Indonesian Journal of Animal Science*), 23(1), 17–24.
<https://doi.org/10.25077/jpi.23.1.17-24.2021>

Moroney, L. (2020). AI and Machine Learning for Coders: A Programmer's Guide to Artificial Intelligence. Dalam *AI and Machine Learning for Coders: A Programmer's Guide to Artificial Intelligence*. (First Edition). O'Reilly Media, Inc.

Mustafid, A., & 'Uyun, S. (2018). Sistem Pengolahan Citra Digital untuk Menentukan Bobot Sapi Menggunakan Metode Titik Berat. *Jurnal Teknologi Informasi dan Ilmu Komputer*, 5(6), 677.
<https://doi.org/10.25126/jtiik.201856841>

Obikee, A. C., Ebuh, G. U., & Obiora-IIouno, H. O. (2014). Comparison of Outlier Techniques Based on Simulated Data. *Open Journal of Statistics*, 04(07), 536–561. <https://doi.org/10.4236/ojs.2014.47051>

Oliveira, L., Victoriano, M., Alves, A., & Pereira, J. (2022). *USE OF YOLOV5 OBJECT DETECTION ALGORITHMS FOR INSECT DETECTION*.

Pretto, A., Savio, G., Gottardo, F., Uccheddu, F., & Concheri, G. (2022). A novel low-cost visual ear tag based identification system for precision beef cattle livestock farming. *Information Processing in Agriculture*.
<https://doi.org/10.1016/j.inpa.2022.10.003>

Qiao, Y., Guo, Y., & He, D. (2023). Cattle body detection based on YOLOv5-ASFF for precision livestock farming. *Computers and Electronics in Agriculture*, 204. <https://doi.org/10.1016/j.compag.2022.107579>

Ramachandran, P., Zoph, B., & Le, Q. V. (2017). *Searching for Activation Functions*. <http://arxiv.org/abs/1710.05941>

Redmon, J., Divvala, S., Girshick, R., & Farhadi, A. (2015). *You Only Look Once: Unified, Real-Time Object Detection*. <http://arxiv.org/abs/1506.02640>



J., & Farhadi, A. (2017). YOLO9000: Better, Faster, Stronger. *2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 6517–5. <https://doi.org/10.1109/CVPR.2017.690>

Rezatofighi, H., Tsoi, N., Gwak, J., Sadeghian, A., Reid, I., & Savarese, S. (2019). Generalized Intersection over Union: A Metric and A Loss for Bounding Box Regression. *The IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*.

Solawetz, J. (2020, Juni 29). *What is YOLOv5? A Guide for Beginners*. Roboflow.
<https://blog.roboflow.com/yolov5-improvements-and-evaluation/>

Suryanto, A. A., Muqtadir, A., & Artikel, S. (2019). *PENERAPAN METODE MEAN ABSOLUTE ERROR (MEA) DALAM ALGORITMA REGRESI LINEAR UNTUK PREDIKSI PRODUKSI PADI* Info Artikel : ABSTRAK. 1, 11.

Thapar, G., Biswas, T. K., Bhushan, B., Naskar, S., Kumar, A., Dandapat, P., & Rokhade, J. (2023). Accurate estimation of body weight of pigs through smartphone image measurement app. *Smart Agricultural Technology*, 4, 100194. <https://doi.org/10.1016/j.atech.2023.100194>

Wang, C., Luo, Q., Chen, X., Yi, B., & Wang, H. (2021). Citrus recognition based on YOLOv4 neural network. *Journal of Physics: Conference Series*, 1820(1). <https://doi.org/10.1088/1742-6596/1820/1/012163>

Wang, C.-Y., Liao, H.-Y. M., Wu, Y.-H., Chen, P.-Y., Hsieh, J.-W., & Yeh, I.-H. (2020). *CSPNet: A New Backbone that can Enhance Learning Capability of CNN*.

https://openaccess.thecvf.com/content_CVPRW_2020/papers/w28/Wang_CS_PNet_A_New_Backbone_That_Can_Enhance_Learning_Capability_of_CVP_RW_2020_paper.pdf

Wang, Z., Shadpour, S., Chan, E., Rotondo, V., Wood, K. M., & Tulpan, D. (2021). ASAS-NANP SYMPOSIUM: Applications of machine learning for livestock body weight prediction from digital images. Dalam *Journal of Animal Science* (Vol. 99, Nomor 2). Oxford University Press. <https://doi.org/10.1093/jas/skab022>

T. A. M., Weber, F. de L., Oliveira, A. da S., Astolfi, G., Menezes, G. V., Andrade Porto, J. V., Rezende, F. P. C., Moraes, P. H. de, Matsubara, E.



T., Mateus, R. G., de Araújo, T. L. A. C., da Silva, L. O. C., de Queiroz, E. Q. A., de Abreu, U. G. P., da Costa Gomes, R., & Pistori, H. (2020). Cattle weight estimation using active contour models and regression trees Bagging. *Computers and Electronics in Agriculture*, 179, 105804. <https://doi.org/10.1016/j.compag.2020.105804>



LAMPIRAN

Lampiran 1. Daftar tabel hasil perhitungan berat badan sapi

Nama File	Berat Aktual (kg)	Berat Estimasi (kg)	Selisih (kg)	Error (%)
2.0_s_61_1.4_F	61	54.81	6.19	10.15
511_s_70_2.0_M	70	87.93	17.93	25.61
351_s_71_1.6_F	71	148.84	77.84	109.63
131.0_s_75_2.0_F	75	88.01	13.01	17.35
432_s_76_2.0_F	76	109.72	33.72	44.37
249.0_s_83_2.0_F	83	57.43	25.57	30.81
343_s_84_1.8_F	84	110.31	26.31	31.32
3.0_s_86_10.0_F	86	85.75	0.25	0.29
124.0_s_91_2.0_F	91	70.11	20.89	22.96
229.0_s_92_2.0_F	92	166.12	74.12	80.57
418_s_92_2.0_F	92	113.39	21.39	23.25
466_s_93_2.0_M	93	126.74	33.74	36.28
76.0_s_95_1.6_F	95	67.50	27.5	28.95
6.0_s_96_5.0_M	96	62.32	33.68	35.08
187.0_s_96_3.0_M	96	96.02	0.02	0.02
473_s_96_1.6_F	96	116.45	20.45	21.30
325.0_s_99_3.0_F	99	100.78	1.78	1.80
339_s_99_1.7_M	99	142.54	43.54	43.98
513_s_100_3.0_F	100	70.29	29.71	29.71
239.0_s_101_2.0_F	101	100.97	0.03	0.03
144.0_s_102_1.6_F	102	95.11	6.89	6.75
258.0_s_102_1.6_F	102	90.75	11.25	11.03
179.0_s_103_1.6_M	103	106.55	3.55	3.45
145.0_s_104_1.7_F	104	85.26	18.74	18.02
146.0_s_104_1.8_F	104	69.26	34.74	33.40
253.0_s_104_2.0_F	104	71.52	32.48	31.23
307.0_s_104_3.0_M	104	83.45	20.55	19.76
310.0_s_104_3.0_F	104	99.17	4.83	4.64
8.0_s_107_2.0_M	107	107.22	0.22	0.21
344_s_108_2.0_M	108	111.20	3.2	2.96
65.0_s_109_6.0_F	109	91.12	17.88	16.40
336.0_s_109_1.8_M	109	76.19	32.81	30.10
11.0_s_112_2.0_F	112	98.88	13.12	11.71
249.0_s_112_1.6_M	112	144.36	32.36	28.89
12_2.0_F	112	159.83	47.83	42.71
113_2.0_F	113	115.56	2.56	2.27
13_3.0_M	113	172.04	59.04	52.25
.15_2.4_F	115	156.97	41.97	36.50



(Lanjutan)

398_s_116_3.0_F	116	58.51	57.49	49.56
1.0_s_117_10.0_F	117	117.23	0.23	0.20
235.0_s_117_2.0_F	117	121.06	4.06	3.47
252.0_s_117_3.0_F	117	70.39	46.61	39.84
270.0_s_119_5.0_F	119	120.61	1.61	1.35
322.0_s_119_2.0_M	119	127.45	8.45	7.10
89.0_s_120_3.0_M	120	111.70	8.3	6.92
269.0_s_120_4.0_F	120	118.81	1.19	0.99
512_s_120_2.6_M	120	137.54	17.54	14.62
413_s_122_1.6_M	122	73.62	48.38	39.66
352_s_123_1.7_M	123	96.53	26.47	21.52
510_s_123_3.0_F	123	105.32	17.68	14.37
114.0_s_124_2.6_F	124	240.63	116.63	94.06
122.0_s_124_2.0_M	124	128.66	4.66	3.76
177.0_s_124_2.0_M	124	117.90	6.1	4.92
15.0_s_126_3.1_F	126	131.36	5.36	4.25
293.0_s_128_2.6_M	128	172.10	44.1	34.45
13.0_s_129_4.2_F	129	136.84	7.84	6.08
16.0_s_129_4.2_F	129	173.19	44.19	34.26
309.0_s_129_4.0_F	129	125.18	3.82	2.96
313.0_s_129_2.6_F	129	164.40	35.4	27.44
59.0_s_130_4.0_M	130	96.10	33.9	26.08
465_s_131_4.0_F	131	153.75	22.75	17.37
94.0_s_132_2.0_F	132	139.74	7.74	5.86
184.0_s_132_3.0_F	132	125.96	6.04	4.58
185.0_s_132_4.0_F	132	133.91	1.91	1.45
259.0_s_134_4.0_F	134	129.84	4.16	3.10
384_s_134_2.0_M	134	212.61	78.61	58.66
265.0_s_135_2.0_F	135	140.43	5.43	4.02
203.0_s_136_3.0_F	136	97.36	38.64	28.41
277.0_s_136_3.0_F	136	92.21	43.79	32.20
298.0_s_136_2.0_F	136	134.06	1.94	1.43
471_s_136_2.0_F	136	127.44	8.56	6.29
315.0_s_137_2.0_M	137	132.07	4.93	3.60
516_s_137_5.0_F	137	110.64	26.36	19.24
48.0_s_138_2.0_F	138	162.95	24.95	18.08
87.0_s_138_6.0_F	138	146.97	8.97	6.50
223.0_s_138_3.6_F	138	236.36	98.36	71.28
250_n_s_138_3.0_F	138	91.00	47	34.06
138_3.0_M	138	136.37	1.63	1.18
9_2.0_M	139	87.44	51.56	37.09
139_2.6_M	139	168.16	29.16	20.98
140_3.6_F	140	194.38	54.38	38.84



(Lanjutan)

10.0_s_141_2.0_M	141	117.60	23.4	16.60
86.0_s_141_3.0_F	141	152.72	11.72	8.31
91.0_s_141_6.0_F	141	135.13	5.87	4.16
169.0_s_142_3.0_F	142	180.69	38.69	27.25
225.0_s_142_3.6_F	142	109.54	32.46	22.86
304.0_s_143_3.0_F	143	120.19	22.81	15.95
161.0_s_144_3.0_F	144	123.75	20.25	14.06
264.0_s_144_2.0_M	144	102.93	41.07	28.52
25.0_s_145_2.6_F	145	148.50	3.5	2.41
283.0_s_145_3.6_F	145	139.97	5.03	3.47
285.0_s_145_2.6_M	145	210.50	65.5	45.17
477_s_145_1.6_M	145	149.05	4.05	2.79
21.0_s_146_3.2_F	146	115.13	30.87	21.14
180.0_s_146_5.0_F	146	132.34	13.66	9.36
217.0_s_146_3.0_F	146	157.18	11.18	7.66
303.0_s_146_4.0_F	146	119.10	26.9	18.42
330.0_s_146_3.0_F	146	96.75	49.25	33.73
333.0_s_146_5.0_F	146	141.11	4.89	3.35
431_s_146_4.0_F	146	133.54	12.46	8.53
128.0_s_147_2.0_F	147	127.63	19.37	13.18
425_s_147_4.0_F	147	146.80	0.2	0.14
99.0_s_148_3.0_F	148	114.17	33.83	22.86
186.0_s_148_6.0_F	148	151.84	3.84	2.59
183.0_s_149_4.0_F	149	100.60	48.4	32.48
326.0_s_149_2.0_F	149	143.14	5.86	3.93
404_s_149_5.0_F	149	143.47	5.53	3.71
30.0_s_150_3.0_F	150	140.13	9.87	6.58
31.0_s_150_3.6_F	150	165.46	15.46	10.31
63.0_s_150_10.0_F	150	156.88	6.88	4.59
102.0_s_150_2.0_M	150	124.66	25.34	16.89
195.0_s_150_2.0_M	150	148.54	1.46	0.97
231.0_s_150_3.0_F	150	122.24	27.76	18.51
263.0_s_150_2.0_F	150	99.19	50.81	33.87
266.0_s_150_3.0_M	150	150.11	0.11	0.07
117.0_s_151_2.6_F	151	160.23	9.23	6.11
224.0_s_151_3.0_F	151	91.92	59.08	39.13
226.0_s_151_3.0_F	151	180.42	29.42	19.48
273.0_s_151_5.0_F	151	156.70	5.7	3.77
342_s_151_4.0_F	151	143.60	7.4	4.90
153_3.0_F	153	171.12	18.12	11.84
153_3.0_M	153	159.19	6.19	4.05
153_2.0_M	153	152.41	0.59	0.39
153_3.0_F	153	182.87	29.87	19.52



(Lanjutan)

360_s_153_2.6_M	153	153.05	0.05	0.03
376_s_153_3.0_F	153	95.14	57.86	37.82
428_s_153_5.0_F	153	87.52	65.48	42.80
520_s_153_3.6_F	153	233.87	80.87	52.86
191.0_s_154_2.0_F	154	93.91	60.09	39.02
199.0_s_154_5.0_F	154	160.07	6.07	3.94
256.0_s_154_2.0_M	154	156.78	2.78	1.81
182.0_s_155_3.0_F	155	140.71	14.29	9.22
202.0_s_155_3.6_F	155	163.48	8.48	5.47
274.0_s_155_7.0_F	155	154.70	0.3	0.19
288.0_s_155_4.0_F	155	167.13	12.13	7.83
415_s_155_5.0_F	155	120.86	34.14	22.03
459_s_155_4.0_F	155	136.28	18.72	12.08
461_s_155_6.0_F	155	106.96	48.04	30.99
175.0_s_156_8.0_F	156	160.45	4.45	2.85
254.0_s_156_2.0_F	156	158.36	2.36	1.51
299.0_s_156_3.0_F	156	114.07	41.93	26.88
348_s_156_4.0_F	156	126.76	29.24	18.74
421_s_156_5.0_F	156	116.45	39.55	25.35
5.0_s_157_10.0_F	157	102.18	54.82	34.92
12.0_s_157_3.6_F	157	195.10	38.1	24.27
27.0_s_157_2.6_F	157	174.17	17.17	10.94
36.0_s_157_3.6_F	157	178.80	21.8	13.89
118.0_s_157_3.0_F	157	138.28	18.72	11.92
211.0_s_157_2.0_F	157	186.25	29.25	18.63
292.0_s_157_2.6_M	157	190.81	33.81	21.54
297.0_s_157_2.6_F	157	96.20	60.8	38.73
338_s_157_4.2_F	157	144.75	12.25	7.80
23.0_s_159_3.6_F	159	108.66	50.34	31.66
302.0_s_159_3.0_F	159	128.51	30.49	19.18
337_s_159_4.0_F	159	156.16	2.84	1.79
411_s_159_5.0_F	159	157.24	1.76	1.11
485_s_159_6.0_F	159	129.22	29.78	18.73
109.0_s_160_2.6_F	160	164.37	4.37	2.73
119.0_s_160_2.6_M	160	158.71	1.29	0.81
193.0_s_160_5.0_F	160	166.34	6.34	3.96
232.0_s_160_3.0_F	160	161.04	1.04	0.65
423_s_160_5.0_F	160	127.46	32.54	20.34
380_s_161_3.6_F	161	136.88	24.12	14.98
161_10.0_F	161	164.71	3.71	2.30
161_3.6_F	161	195.09	34.09	21.17
161_3.6_F	161	127.70	33.3	20.68
161_2.6_F	161	120.20	40.8	25.34



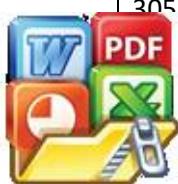
(Lanjutan)

318.0_s_161_3.6_F	161	144.75	16.25	10.09
341_s_161_5.0_F	161	127.46	33.54	20.83
395_s_161_2.6_F	161	230.26	69.26	43.02
188.0_s_163_6.0_F	163	98.40	64.6	39.63
261.0_s_163_3.0_F	163	159.52	3.48	2.13
49.0_s_164_3.6_F	164	178.06	14.06	8.57
171.0_s_164_2.6_F	164	163.28	0.72	0.44
294.0_s_164_3.6_F	164	172.42	8.42	5.13
321.0_s_164_3.0_F	164	188.28	24.28	14.80
455_s_164_3.0_F	164	155.36	8.64	5.27
4.0_s_165_8.0_F	165	122.18	42.82	25.95
19.0_s_165_3.6_F	165	164.50	0.5	0.30
105.0_s_165_2.0_F	165	102.31	62.69	37.99
218.0_s_165_3.0_F	165	171.03	6.03	3.65
230.0_s_165_3.0_F	165	141.33	23.67	14.35
178.0_s_166_6.0_F	166	170.14	4.14	2.49
335.0_s_166_1.9_M	166	163.20	2.8	1.69
260.0_s_167_3.0_F	167	167.17	0.17	0.10
28.0_s_168_3.6_F	168	120.88	47.12	28.05
209.0_s_168_3.6_F	168	128.16	39.84	23.71
281.0_s_168_5.0_F	168	104.91	63.09	37.55
82.0_s_169_2.6_F	169	170.15	1.15	0.68
300.0_s_169_4.0_F	169	135.31	33.69	19.93
311.0_s_169_5.0_F	169	165.29	3.71	2.20
57.0_s_170_2.0_M	170	134.60	35.4	20.82
96.0_s_170_2.0_M	170	134.26	35.74	21.02
123.0_s_170_6.0_F	170	180.86	10.86	6.39
201.0_s_170_2.0_M	170	201.03	31.03	18.25
221.0_s_170_4.0_F	170	171.54	1.54	0.91
272.0_s_170_8.0_F	170	168.53	1.47	0.86
323.0_s_170_4.0_F	170	133.18	36.82	21.66
163.0_s_172_3.6_F	172	159.82	12.18	7.08
212.0_s_172_3.6_F	172	142.76	29.24	17.00
219.0_s_172_3.6_F	172	207.50	35.5	20.64
275.0_s_172_4.0_F	172	116.70	55.3	32.15
290.0_s_172_3.0_F	172	173.12	1.12	0.65
320.0_s_172_2.6_F	172	141.70	30.3	17.62
396_s_172_3.0_F	172	221.71	49.71	28.90
450_s_172_3.6_F	172	120.19	51.81	30.12
72_2.6_F	172	167.53	4.47	2.60
73_2.0_M	173	168.64	4.36	2.52
73_6.0_F	173	131.27	41.73	24.12
173_5.0_F	173	177.28	4.28	2.47



(Lanjutan)

24.0_s_174_3.2_F	174	125.71	48.29	27.75
33.0_s_174_2.6_F	174	141.63	32.37	18.60
45.0_s_174_2.0_F	174	176.51	2.51	1.44
157.0_s_174_2.0_F	174	176.71	2.71	1.56
172.0_s_174_3.6_F	174	159.80	14.2	8.16
192.0_s_174_6.0_F	174	165.79	8.21	4.72
196.0_s_174_5.0_F	174	170.34	3.66	2.10
257.0_s_174_3.0_F	174	179.16	5.16	2.97
289.0_s_174_2.6_F	174	184.59	10.59	6.09
357_s_174_5.5_F	174	132.05	41.95	24.11
364_s_174_4.0_F	174	217.33	43.33	24.90
522_s_174_4.0_F	174	193.97	19.97	11.48
18.0_s_176_3.6_F	176	185.36	9.36	5.32
37.0_s_176_4.0_F	176	220.74	44.74	25.42
52.0_s_176_2.0_F	176	154.22	21.78	12.38
140.0_s_176_7.0_F	176	181.60	5.6	3.18
165.0_s_176_3.6_F	176	163.54	12.46	7.08
181.0_s_176_10.0_F	176	173.10	2.9	1.65
234.0_s_176_3.6_F	176	183.95	7.95	4.52
242.0_s_176_6.0_F	176	142.33	33.67	19.13
331.0_s_176_4.0_F	176	89.64	86.36	49.07
363_s_176_4.0_F	176	181.87	5.87	3.34
393_s_176_6.0_F	176	218.41	42.41	24.10
54.0_s_177_2.0_F	177	183.10	6.1	3.45
106.0_s_177_2.0_F	177	146.28	30.72	17.36
40.0_s_178_4.0_F	178	132.02	45.98	25.83
44.0_s_178_3.0_F	178	117.63	60.37	33.92
108.0_s_178_2.0_M	178	150.95	27.05	15.20
121.0_s_178_3.6_F	178	188.41	10.41	5.85
125.0_s_178_10.0_F	178	178.42	0.42	0.24
127.0_s_178_8.0_F	178	167.76	10.24	5.75
284.0_s_178_3.6_F	178	147.06	30.94	17.38
332.0_s_178_3.0_M	178	91.04	86.96	48.85
92.0_s_180_6.0_F	180	185.76	5.76	3.20
139.0_s_180_6.0_F	180	181.35	1.35	0.75
142.0_s_180_6.0_F	180	172.87	7.13	3.96
236.0_s_180_4.6_F	180	115.48	64.52	35.84
282.0_s_180_3.6_F	180	143.43	36.57	20.32
305_n_s_180_5.0_F	180	123.28	56.72	31.51
30_5.0_F	180	95.28	84.72	47.07
1_5.0_F	181	179.66	1.34	0.74
81_3.6_F	181	110.00	71	39.23
181_3.0_F	181	181.19	0.19	0.10



(Lanjutan)

334.0_s_181_3.0_M	181	181.99	0.99	0.55
375_s_181_6.0_F	181	137.16	43.84	24.22
444_s_181_5.0_F	181	99.47	81.53	45.04
26.0_s_183_4.1_F	183	160.92	22.08	12.07
75.0_s_183_7.0_F	183	180.39	2.61	1.43
103.0_s_184_3.0_F	184	160.55	23.45	12.74
243.0_s_184_5.6_F	184	184.24	0.24	0.13
306.0_s_184_4.0_F	184	183.35	0.65	0.35
20.0_s_185_3.2_F	185	154.15	30.85	16.68
34.0_s_185_4.0_F	185	169.41	15.59	8.43
50.0_s_185_1.7_F	185	191.18	6.18	3.34
98.0_s_185_3.0_F	185	123.61	61.39	33.18
104.0_s_185_3.6_F	185	197.95	12.95	7.00
113.0_s_185_4.0_F	185	160.11	24.89	13.45
129.0_s_185_10.0_F	185	128.20	56.8	30.70
143.0_s_185_4.6_F	185	172.60	12.4	6.70
276.0_s_185_3.0_F	185	116.11	68.89	37.24
83.0_s_187_4.0_F	187	161.06	25.94	13.87
137.0_s_187_2.0_F	187	182.62	4.38	2.34
141.0_s_187_5.0_F	187	193.30	6.3	3.37
208.0_s_187_3.6_F	187	162.28	24.72	13.22
255.0_s_187_3.0_F	187	179.92	7.08	3.79
317.0_s_188_3.6_F	188	175.91	12.09	6.43
518_s_188_4.6_F	188	181.17	6.83	3.63
60.0_s_189_2.6_M	189	161.11	27.89	14.76
262.0_s_189_4.0_F	189	184.59	4.41	2.33
35.0_s_190_2.6_F	190	198.74	8.74	4.60
155.0_s_190_7.0_F	190	189.36	0.64	0.34
458_s_190_4.0_F	190	126.32	63.68	33.52
526_s_190_3.0_F	190	199.85	9.85	5.18
42.0_s_191_2.6_F	191	131.29	59.71	31.26
56.0_s_191_4.0_M	191	183.52	7.48	3.92
238.0_s_191_6.0_F	191	196.96	5.96	3.12
240.0_s_191_5.6_F	191	193.19	2.19	1.15
371_s_191_4.0_F	191	108.72	82.28	43.08
90.0_s_192_8.0_F	192	199.53	7.53	3.92
205.0_s_192_3.0_F	192	116.16	75.84	39.50
248.0_s_192_6.0_F	192	116.35	75.65	39.40
279_n_c_192_4.0_F	192	163.53	28.47	14.83
92_4.0_F	192	156.33	35.67	18.58
92_4.0_F	192	211.19	19.19	9.99
92_5.0_F	192	194.98	2.98	1.55
92_5.0_F	192	195.25	3.25	1.69



(Lanjutan)

77.0_s_193_5.0_F	193	184.28	8.72	4.52
138.0_s_193_5.0_F	193	192.06	0.94	0.49
22.0_s_194_3.8_F	194	153.75	40.25	20.75
58.0_s_194_4.0_F	194	175.83	18.17	9.37
81.0_s_194_2.8_F	194	190.27	3.73	1.92
88.0_s_194_5.0_F	194	203.54	9.54	4.92
112.0_s_194_4.0_F	194	182.49	11.51	5.93
176.0_s_194_7.0_F	194	196.89	2.89	1.49
216.0_s_194_2.6_F	194	197.92	3.92	2.02
220.0_s_194_4.0_F	194	180.23	13.77	7.10
286.0_s_194_3.0_F	194	223.08	29.08	14.99
95.0_s_195_8.0_F	195	188.56	6.44	3.30
251.0_s_195_6.0_F	195	196.33	1.33	0.68
312.0_s_195_5.0_F	195	190.73	4.27	2.19
361_s_197_3.0_F	197	156.55	40.45	20.53
17.0_s_199_3.6_F	199	137.21	61.79	31.05
47.0_s_199_3.6_F	199	144.75	54.25	27.26
101.0_s_199_3.0_F	199	166.00	33	16.58
152.0_s_199_5.0_F	199	146.08	52.92	26.59
207.0_s_199_3.0_F	199	196.33	2.67	1.34
314.0_s_199_4.0_F	199	186.10	12.9	6.48
385_s_199_4.6_F	199	197.69	1.31	0.66
521_s_199_5.0_F	199	187.87	11.13	5.59
245.0_s_200_5.0_F	200	141.33	58.67	29.34
213.0_s_201_3.0_F	201	174.92	26.08	12.98
387_s_201_2.6_M	201	217.41	16.41	8.16
29.0_s_202_2.6_F	202	125.65	76.35	37.80
166.0_s_203_4.0_F	203	226.37	23.37	11.51
190.0_s_204_4.0_F	204	205.67	1.67	0.82
505_s_204_4.0_F	204	199.94	4.06	1.99
97.0_s_206_2.0_M	206	177.20	28.8	13.98
278.0_s_206_4.0_F	206	210.50	4.5	2.18
524_s_206_7.0_F	206	176.71	29.29	14.22
390_s_207_2.6_F	207	203.64	3.36	1.62
167.0_s_209_2.5_M	209	158.86	50.14	23.99
365_s_209_2.6_M	209	219.88	10.88	5.21
452_s_209_2.0_F	209	202.26	6.74	3.22
189.0_s_211_3.0_F	211	196.70	14.3	6.78
222_n_s_211_4.0_F	211	137.95	73.05	34.62
212_5.0_F	212	207.32	4.68	2.21
212_3.6_F	212	161.82	50.18	23.67
215_5.0_F	215	138.64	76.36	35.52
215_3.0_F	215	163.48	51.52	23.96



(Lanjutan)

78.0_s_216_5.0_F	216	222.18	6.18	2.86
79.0_s_216_3.0_F	216	206.98	9.02	4.18
107.0_s_216_3.6_F	216	133.90	82.1	38.01
116.0_s_216_3.0_F	216	187.73	28.27	13.09
170.0_s_216_4.0_F	216	196.78	19.22	8.90
244.0_s_218_4.0_F	218	148.57	69.43	31.85
500_s_218_4.0_F	218	121.77	96.23	44.14
319.0_s_219_2.6_F	219	186.09	32.91	15.03
291.0_s_220_4.0_F	220	165.97	54.03	24.56
135.0_s_223_4.0_F	223	178.30	44.7	20.04
151.0_s_223_5.6_F	223	211.72	11.28	5.06
51.0_s_224_2.0_F	224	228.46	4.46	1.99
84.0_s_224_5.0_F	224	173.70	50.3	22.46
132.0_s_224_3.0_F	224	187.32	36.68	16.38
206.0_s_224_2.6_M	224	194.21	29.79	13.30
168.0_s_226_3.0_F	226	173.35	52.65	23.30
198.0_s_226_6.0_F	226	142.33	83.67	37.02
74.0_s_229_8.0_F	229	202.89	26.11	11.40
210.0_s_229_2.6_F	229	145.81	83.19	36.33
296.0_s_229_2.6_M	229	151.72	77.28	33.75
162.0_s_234_4.0_F	234	170.54	63.46	27.12
389_s_234_2.6_F	234	190.11	43.89	18.76
501_s_234_6.0_F	234	157.78	76.22	32.57
39.0_s_239_3.6_F	239	248.95	9.95	4.16
148.0_s_239_5.6_F	239	245.71	6.71	2.81
246.0_s_239_4.6_F	239	238.71	0.29	0.12
295.0_s_239_3.6_F	239	159.99	79.01	33.06
328.0_s_239_4.0_F	239	232.74	6.26	2.62
327.0_s_240_4.0_F	240	158.93	81.07	33.78
156.0_s_244_2.6_F	244	229.44	14.56	5.97
241.0_s_244_3.0_M	244	253.60	9.6	3.93
120.0_s_245_4.6_F	245	173.73	71.27	29.09
158.0_s_247_3.0_F	247	231.30	15.7	6.36
147.0_s_248_5.0_F	248	213.82	34.18	13.78
154.0_s_253_2.6_F	253	253.49	0.49	0.19
80.0_s_256_6.0_F	256	157.04	98.96	38.66
412_s_256_2.0_M	256	131.76	124.24	48.53
159.0_s_261_2.6_M	261	264.09	3.09	1.18
160_n_s_261_5.0_F	261	250.85	10.15	3.89
262_3.6_F	262	187.76	74.24	28.34
268_3.6_F	268	180.69	87.31	32.58
283_5.0_F	283	182.08	100.92	35.66
291_3.0_F	291	277.90	13.1	4.50



(Lanjutan)

197.0_s_294_6.0_F	294	272.80	21.2	7.21
43.0_s_297_3.6_F	297	157.90	139.1	46.84
149.0_s_300_6.0_F	300	201.87	98.13	32.71
474_s_300_4.0_F	300	228.90	71.1	23.70
32.0_s_312_3.6_F	312	229.79	82.21	26.35
215.0_s_335_2.7_F	335	229.51	105.49	31.49
233.0_s_376_4.0_F	376	221.41	154.59	41.11
204.0_s_481_2.6_M	481	297.64	183.36	38.12
Jumlah Error(kg)				11031.7
MAE				28.29 kg
Jumlah Error%				6491.87
MAPE				16.54%



Optimized using
trial version
www.balesio.com

Lampiran 2. Tabel yang telah diolah

No.	Nama File	Berat Aktual (kg)	Berat Estimasi (kg)	Selisih (kg)	Error (%)
2	2.0_s_61_1.4_F	61	54.81	6.19	10.15
379	511_s_70_2.0_M	70	87.93	17.93	25.61
117	131.0_s_75_2.0_F	75	88.01	13.01	17.35
230	249.0_s_83_2.0_F	83	57.43	25.57	30.81
320	343_s_84_1.8_F	84	110.31	26.31	31.32
3	3.0_s_86_10.0_F	86	85.75	0.25	0.29
110	124.0_s_91_2.0_F	91	70.11	20.89	22.96
351	418_s_92_2.0_F	92	113.39	21.39	23.25
367	466_s_93_2.0_M	93	126.74	33.74	36.28
63	76.0_s_95_1.6_F	95	67.50	27.5	28.95
170	187.0_s_96_3.0_M	96	96.02	0.02	0.02
369	473_s_96_1.6_F	96	116.45	20.45	21.30
6	6.0_s_96_5.0_M	96	62.32	33.68	35.08
303	325.0_s_99_3.0_F	99	100.78	1.78	1.80
381	513_s_100_3.0_F	100	70.29	29.71	29.71
220	239.0_s_101_2.0_F	101	100.97	0.03	0.03
129	144.0_s_102_1.6_F	102	95.11	6.89	6.75
239	258.0_s_102_1.6_F	102	90.75	11.25	11.03
162	179.0_s_103_1.6_M	103	106.55	3.55	3.45
289	310.0_s_104_3.0_F	104	99.17	4.83	4.64
130	145.0_s_104_1.7_F	104	85.26	18.74	18.02
287	307.0_s_104_3.0_M	104	83.45	20.55	19.76
234	253.0_s_104_2.0_F	104	71.52	32.48	31.23
131	146.0_s_104_1.8_F	104	69.26	34.74	33.40
8	8.0_s_107_2.0_M	107	107.22	0.22	0.21
321	344_s_108_2.0_M	108	111.20	3.2	2.96
60	65.0_s_109_6.0_F	109	91.12	17.88	16.40
313	336.0_s_109_1.8_M	109	76.19	32.81	30.10
11	11.0_s_112_2.0_F	112	98.88	13.12	11.71
317	340_s_112_1.6_M	112	144.36	32.36	28.89
112	126.0_s_113_2.0_F	113	115.56	2.56	2.27
14	14.0_s_115_2.4_F	115	156.97	41.97	36.50
1	1.0_s_117_10.0_F	117	117.23	0.23	0.20
216	235.0_s_117_2.0_F	117	121.06	4.06	3.47
233	252.0_s_117_3.0_F	117	70.39	46.61	39.84
250	~0.0_s_119_5.0_F	119	120.61	1.61	1.35
	2.0_s_119_2.0_M	119	127.45	8.45	7.10
	9.0_s_120_4.0_F	120	118.81	1.19	0.99
	.0_s_120_3.0_M	120	111.70	8.3	6.92
	2_s_120_2.6_M	120	137.54	17.54	14.62



(Lanjutan)

349	413_s_122_1.6_M	122	73.62	48.38	39.66
378	510_s_123_3.0_F	123	105.32	17.68	14.37
325	352_s_123_1.7_M	123	96.53	26.47	21.52
108	122.0_s_124_2.0_M	124	128.66	4.66	3.76
160	177.0_s_124_2.0_M	124	117.90	6.1	4.92
15	15.0_s_126_3.1_F	126	131.36	5.36	4.25
273	293.0_s_128_2.6_M	128	172.10	44.1	34.45
288	309.0_s_129_4.0_F	129	125.18	3.82	2.96
13	13.0_s_129_4.2_F	129	136.84	7.84	6.08
292	313.0_s_129_2.6_F	129	164.40	35.4	27.44
16	16.0_s_129_4.2_F	129	173.19	44.19	34.26
56	59.0_s_130_4.0_M	130	96.10	33.9	26.08
366	465_s_131_4.0_F	131	153.75	22.75	17.37
168	185.0_s_132_4.0_F	132	133.91	1.91	1.45
167	184.0_s_132_3.0_F	132	125.96	6.04	4.58
80	94.0_s_132_2.0_F	132	139.74	7.74	5.86
240	259.0_s_134_4.0_F	134	129.84	4.16	3.10
246	265.0_s_135_2.0_F	135	140.43	5.43	4.02
278	298.0_s_136_2.0_F	136	134.06	1.94	1.43
368	471_s_136_2.0_F	136	127.44	8.56	6.29
185	203.0_s_136_3.0_F	136	97.36	38.64	28.41
257	277.0_s_136_3.0_F	136	92.21	43.79	32.20
294	315.0_s_137_2.0_M	137	132.07	4.93	3.60
382	516_s_137_5.0_F	137	110.64	26.36	19.24
248	267.0_s_138_3.0_M	138	136.37	1.63	1.18
73	87.0_s_138_6.0_F	138	146.97	8.97	6.50
47	48.0_s_138_2.0_F	138	162.95	24.95	18.08
231	250.0_s_138_3.0_F	138	91.00	47	34.06
267	287.0_s_139_2.6_M	139	168.16	29.16	20.98
7	7.0_s_139_2.0_M	139	87.44	51.56	37.09
101	115.0_s_140_3.6_F	140	194.38	54.38	38.84
77	91.0_s_141_6.0_F	141	135.13	5.87	4.16
72	86.0_s_141_3.0_F	141	152.72	11.72	8.31
10	10.0_s_141_2.0_M	141	117.60	23.4	16.60
207	225.0_s_142_3.6_F	142	109.54	32.46	22.86
152	169.0_s_142_3.0_F	142	180.69	38.69	27.25
284	304.0_s_143_3.0_F	143	120.19	22.81	15.95
144	161.0_s_144_3.0_F	144	123.75	20.25	14.06
245	264.0_s_144_2.0_M	144	102.93	41.07	28.52
	.0_s_145_2.6_F	145	148.50	3.5	2.41
	7_s_145_1.6_M	145	149.05	4.05	2.79
	3.0_s_145_3.6_F	145	139.97	5.03	3.47
	3.0_s_146_5.0_F	146	141.11	4.89	3.35



(Lanjutan)

199	217.0_s_146_3.0_F	146	157.18	11.18	7.66
356	431_s_146_4.0_F	146	133.54	12.46	8.53
163	180.0_s_146_5.0_F	146	132.34	13.66	9.36
283	303.0_s_146_4.0_F	146	119.10	26.9	18.42
21	21.0_s_146_3.2_F	146	115.13	30.87	21.14
307	330.0_s_146_3.0_F	146	96.75	49.25	33.73
354	425_s_147_4.0_F	147	146.80	0.2	0.14
114	128.0_s_147_2.0_F	147	127.63	19.37	13.18
169	186.0_s_148_6.0_F	148	151.84	3.84	2.59
85	99.0_s_148_3.0_F	148	114.17	33.83	22.86
346	404_s_149_5.0_F	149	143.47	5.53	3.71
304	326.0_s_149_2.0_F	149	143.14	5.86	3.93
166	183.0_s_149_4.0_F	149	100.60	48.4	32.48
247	266.0_s_150_3.0_M	150	150.11	0.11	0.07
177	195.0_s_150_2.0_M	150	148.54	1.46	0.97
59	63.0_s_150_10.0_F	150	156.88	6.88	4.59
30	30.0_s_150_3.0_F	150	140.13	9.87	6.58
31	31.0_s_150_3.6_F	150	165.46	15.46	10.31
88	102.0_s_150_2.0_M	150	124.66	25.34	16.89
212	231.0_s_150_3.0_F	150	122.24	27.76	18.51
244	263.0_s_150_2.0_F	150	99.19	50.81	33.87
253	273.0_s_151_5.0_F	151	156.70	5.7	3.77
319	342_s_151_4.0_F	151	143.60	7.4	4.90
103	117.0_s_151_2.6_F	151	160.23	9.23	6.11
208	226.0_s_151_3.0_F	151	180.42	29.42	19.48
206	224.0_s_151_3.0_F	151	91.92	59.08	39.13
327	360_s_153_2.6_M	153	153.05	0.05	0.03
147	164.0_s_153_2.0_M	153	152.41	0.59	0.39
119	133.0_s_153_3.0_M	153	159.19	6.19	4.05
97	111.0_s_153_3.0_F	153	171.12	18.12	11.84
156	173.0_s_153_3.0_F	153	182.87	29.87	19.52
335	376_s_153_3.0_F	153	95.14	57.86	37.82
237	256.0_s_154_2.0_M	154	156.78	2.78	1.81
181	199.0_s_154_5.0_F	154	160.07	6.07	3.94
174	191.0_s_154_2.0_F	154	93.91	60.09	39.02
254	274.0_s_155_7.0_F	155	154.70	0.3	0.19
184	202.0_s_155_3.6_F	155	163.48	8.48	5.47
268	288.0_s_155_4.0_F	155	167.13	12.13	7.83
165	182.0_s_155_3.0_F	155	140.71	14.29	9.22
	9_s_155_4.0_F	155	136.28	18.72	12.08
	5_s_155_5.0_F	155	120.86	34.14	22.03
	1_s_155_6.0_F	155	106.96	48.04	30.99
	4.0_s_156_2.0_F	156	158.36	2.36	1.51



(Lanjutan)

158	175.0_s_156_8.0_F	156	160.45	4.45	2.85
322	348_s_156_4.0_F	156	126.76	29.24	18.74
352	421_s_156_5.0_F	156	116.45	39.55	25.35
279	299.0_s_156_3.0_F	156	114.07	41.93	26.88
315	338_s_157_4.2_F	157	144.75	12.25	7.80
27	27.0_s_157_2.6_F	157	174.17	17.17	10.94
104	118.0_s_157_3.0_F	157	138.28	18.72	11.92
36	36.0_s_157_3.6_F	157	178.80	21.8	13.89
193	211.0_s_157_2.0_F	157	186.25	29.25	18.63
272	292.0_s_157_2.6_M	157	190.81	33.81	21.54
12	12.0_s_157_3.6_F	157	195.10	38.1	24.27
5	5.0_s_157_10.0_F	157	102.18	54.82	34.92
277	297.0_s_157_2.6_F	157	96.20	60.8	38.73
347	411_s_159_5.0_F	159	157.24	1.76	1.11
314	337_s_159_4.0_F	159	156.16	2.84	1.79
373	485_s_159_6.0_F	159	129.22	29.78	18.73
282	302.0_s_159_3.0_F	159	128.51	30.49	19.18
23	23.0_s_159_3.6_F	159	108.66	50.34	31.66
213	232.0_s_160_3.0_F	160	161.04	1.04	0.65
105	119.0_s_160_2.6_M	160	158.71	1.29	0.81
95	109.0_s_160_2.6_F	160	164.37	4.37	2.73
176	193.0_s_160_5.0_F	160	166.34	6.34	3.96
353	423_s_160_5.0_F	160	127.46	32.54	20.34
116	130.0_s_161_10.0_F	161	164.71	3.71	2.30
297	318.0_s_161_3.6_F	161	144.75	16.25	10.09
38	38.0_s_161_3.6_F	161	136.88	24.12	14.98
209	228.0_s_161_3.6_F	161	127.70	33.3	20.68
318	341_s_161_5.0_F	161	127.46	33.54	20.83
196	214.0_s_161_3.6_F	161	195.09	34.09	21.17
260	280.0_s_161_2.6_F	161	120.20	40.8	25.34
242	261.0_s_163_3.0_F	163	159.52	3.48	2.13
171	188.0_s_163_6.0_F	163	98.40	64.6	39.63
154	171.0_s_164_2.6_F	164	163.28	0.72	0.44
274	294.0_s_164_3.6_F	164	172.42	8.42	5.13
361	455_s_164_3.0_F	164	155.36	8.64	5.27
48	49.0_s_164_3.6_F	164	178.06	14.06	8.57
300	321.0_s_164_3.0_F	164	188.28	24.28	14.80
19	19.0_s_165_3.6_F	165	164.50	0.5	0.30
200	218.0_s_165_3.0_F	165	171.03	6.03	3.65
	0.0_s_165_3.0_F	165	141.33	23.67	14.35
	0_s_165_8.0_F	165	122.18	42.82	25.95
	5.0_s_165_2.0_F	165	102.31	62.69	37.99
	5.0_s_166_1.9_M	166	163.20	2.8	1.69



(Lanjutan)

161	178.0_s_166_6.0_F	166	170.14	4.14	2.49
241	260.0_s_167_3.0_F	167	167.17	0.17	0.10
191	209.0_s_168_3.6_F	168	128.16	39.84	23.71
28	28.0_s_168_3.6_F	168	120.88	47.12	28.05
261	281.0_s_168_5.0_F	168	104.91	63.09	37.55
69	82.0_s_169_2.6_F	169	170.15	1.15	0.68
290	311.0_s_169_5.0_F	169	165.29	3.71	2.20
280	300.0_s_169_4.0_F	169	135.31	33.69	19.93
252	272.0_s_170_8.0_F	170	168.53	1.47	0.86
203	221.0_s_170_4.0_F	170	171.54	1.54	0.91
109	123.0_s_170_6.0_F	170	180.86	10.86	6.39
183	201.0_s_170_2.0_M	170	201.03	31.03	18.25
54	57.0_s_170_2.0_M	170	134.60	35.4	20.82
82	96.0_s_170_2.0_M	170	134.26	35.74	21.02
302	323.0_s_170_4.0_F	170	133.18	36.82	21.66
270	290.0_s_172_3.0_F	172	173.12	1.12	0.65
365	462_s_172_2.6_F	172	167.53	4.47	2.60
146	163.0_s_172_3.6_F	172	159.82	12.18	7.08
194	212.0_s_172_3.6_F	172	142.76	29.24	17.00
299	320.0_s_172_2.6_F	172	141.70	30.3	17.62
201	219.0_s_172_3.6_F	172	207.50	35.5	20.64
344	396_s_172_3.0_F	172	221.71	49.71	28.90
359	450_s_172_3.6_F	172	120.19	51.81	30.12
255	275.0_s_172_4.0_F	172	116.70	55.3	32.15
251	271.0_s_173_5.0_F	173	177.28	4.28	2.47
58	61.0_s_173_2.0_M	173	168.64	4.36	2.52
79	93.0_s_173_6.0_F	173	131.27	41.73	24.12
45	45.0_s_174_2.0_F	174	176.51	2.51	1.44
140	157.0_s_174_2.0_F	174	176.71	2.71	1.56
178	196.0_s_174_5.0_F	174	170.34	3.66	2.10
238	257.0_s_174_3.0_F	174	179.16	5.16	2.97
175	192.0_s_174_6.0_F	174	165.79	8.21	4.72
269	289.0_s_174_2.6_F	174	184.59	10.59	6.09
155	172.0_s_174_3.6_F	174	159.80	14.2	8.16
386	522_s_174_4.0_F	174	193.97	19.97	11.48
33	33.0_s_174_2.6_F	174	141.63	32.37	18.60
326	357_s_174_5.5_F	174	132.05	41.95	24.11
330	364_s_174_4.0_F	174	217.33	43.33	24.90
24	24.0_s_174_3.2_F	174	125.71	48.29	27.75
	1.0_s_176_10.0_F	176	173.10	2.9	1.65
	0.0_s_176_7.0_F	176	181.60	5.6	3.18
	3_s_176_4.0_F	176	181.87	5.87	3.34
	4.0_s_176_3.6_F	176	183.95	7.95	4.52



(Lanjutan)

18	18.0_s_176_3.6_F	176	185.36	9.36	5.32
148	165.0_s_176_3.6_F	176	163.54	12.46	7.08
51	52.0_s_176_2.0_F	176	154.22	21.78	12.38
223	242.0_s_176_6.0_F	176	142.33	33.67	19.13
341	393_s_176_6.0_F	176	218.41	42.41	24.10
37	37.0_s_176_4.0_F	176	220.74	44.74	25.42
52	54.0_s_177_2.0_F	177	183.10	6.1	3.45
92	106.0_s_177_2.0_F	177	146.28	30.72	17.36
111	125.0_s_178_10.0_F	178	178.42	0.42	0.24
113	127.0_s_178_8.0_F	178	167.76	10.24	5.75
107	121.0_s_178_3.6_F	178	188.41	10.41	5.85
94	108.0_s_178_2.0_M	178	150.95	27.05	15.20
264	284.0_s_178_3.6_F	178	147.06	30.94	17.38
40	40.0_s_178_4.0_F	178	132.02	45.98	25.83
44	44.0_s_178_3.0_F	178	117.63	60.37	33.92
124	139.0_s_180_6.0_F	180	181.35	1.35	0.75
78	92.0_s_180_6.0_F	180	185.76	5.76	3.20
127	142.0_s_180_6.0_F	180	172.87	7.13	3.96
262	282.0_s_180_3.6_F	180	143.43	36.57	20.32
285	305.0_s_180_5.0_F	180	123.28	56.72	31.51
217	236.0_s_180_4.6_F	180	115.48	64.52	35.84
86	100.0_s_181_3.0_F	181	181.19	0.19	0.10
311	334.0_s_181_3.0_M	181	181.99	0.99	0.55
9	9.0_s_181_5.0_F	181	179.66	1.34	0.74
334	375_s_181_6.0_F	181	137.16	43.84	24.22
41	41.0_s_181_3.6_F	181	110.00	71	39.23
62	75.0_s_183_7.0_F	183	180.39	2.61	1.43
26	26.0_s_183_4.1_F	183	160.92	22.08	12.07
224	243.0_s_184_5.6_F	184	184.24	0.24	0.13
286	306.0_s_184_4.0_F	184	183.35	0.65	0.35
89	103.0_s_184_3.0_F	184	160.55	23.45	12.74
49	50.0_s_185_1.7_F	185	191.18	6.18	3.34
128	143.0_s_185_4.6_F	185	172.60	12.4	6.70
90	104.0_s_185_3.6_F	185	197.95	12.95	7.00
34	34.0_s_185_4.0_F	185	169.41	15.59	8.43
99	113.0_s_185_4.0_F	185	160.11	24.89	13.45
20	20.0_s_185_3.2_F	185	154.15	30.85	16.68
115	129.0_s_185_10.0_F	185	128.20	56.8	30.70
84	98.0_s_185_3.0_F	185	123.61	61.39	33.18
	6.0_s_185_3.0_F	185	116.11	68.89	37.24
	7.0_s_187_2.0_F	187	182.62	4.38	2.34
	1.0_s_187_5.0_F	187	193.30	6.3	3.37
	5.0_s_187_3.0_F	187	179.92	7.08	3.79



(Lanjutan)

190	208.0_s_187_3.6_F	187	162.28	24.72	13.22
70	83.0_s_187_4.0_F	187	161.06	25.94	13.87
383	518_s_188_4.6_F	188	181.17	6.83	3.63
296	317.0_s_188_3.6_F	188	175.91	12.09	6.43
243	262.0_s_189_4.0_F	189	184.59	4.41	2.33
57	60.0_s_189_2.6_M	189	161.11	27.89	14.76
138	155.0_s_190_7.0_F	190	189.36	0.64	0.34
35	35.0_s_190_2.6_F	190	198.74	8.74	4.60
388	526_s_190_3.0_F	190	199.85	9.85	5.18
362	458_s_190_4.0_F	190	126.32	63.68	33.52
221	240.0_s_191_5.6_F	191	193.19	2.19	1.15
219	238.0_s_191_6.0_F	191	196.96	5.96	3.12
53	56.0_s_191_4.0_M	191	183.52	7.48	3.92
42	42.0_s_191_2.6_F	191	131.29	59.71	31.26
372	478_s_192_5.0_F	192	194.98	2.98	1.55
390	528_s_192_5.0_F	192	195.25	3.25	1.69
76	90.0_s_192_8.0_F	192	199.53	7.53	3.92
342	394_s_192_4.0_F	192	211.19	19.19	9.99
259	279.0_s_192_4.0_F	192	163.53	28.47	14.83
323	350_s_192_4.0_F	192	156.33	35.67	18.58
229	248.0_s_192_6.0_F	192	116.35	75.65	39.40
187	205.0_s_192_3.0_F	192	116.16	75.84	39.50
123	138.0_s_193_5.0_F	193	192.06	0.94	0.49
64	77.0_s_193_5.0_F	193	184.28	8.72	4.52
159	176.0_s_194_7.0_F	194	196.89	2.89	1.49
68	81.0_s_194_2.8_F	194	190.27	3.73	1.92
198	216.0_s_194_2.6_F	194	197.92	3.92	2.02
74	88.0_s_194_5.0_F	194	203.54	9.54	4.92
98	112.0_s_194_4.0_F	194	182.49	11.51	5.93
202	220.0_s_194_4.0_F	194	180.23	13.77	7.10
55	58.0_s_194_4.0_F	194	175.83	18.17	9.37
266	286.0_s_194_3.0_F	194	223.08	29.08	14.99
22	22.0_s_194_3.8_F	194	153.75	40.25	20.75
232	251.0_s_195_6.0_F	195	196.33	1.33	0.68
291	312.0_s_195_5.0_F	195	190.73	4.27	2.19
81	95.0_s_195_8.0_F	195	188.56	6.44	3.30
328	361_s_197_3.0_F	197	156.55	40.45	20.53
337	385_s_199_4.6_F	199	197.69	1.31	0.66
189	207.0_s_199_3.0_F	199	196.33	2.67	1.34
	1_s_199_5.0_F	199	187.87	11.13	5.59
	4.0_s_199_4.0_F	199	186.10	12.9	6.48
	1.0_s_199_3.0_F	199	166.00	33	16.58
	2.0_s_199_5.0_F	199	146.08	52.92	26.59



(Lanjutan)

46	47.0_s_199_3.6_F	199	144.75	54.25	27.26
17	17.0_s_199_3.6_F	199	137.21	61.79	31.05
226	245.0_s_200_5.0_F	200	141.33	58.67	29.34
338	387_s_201_2.6_M	201	217.41	16.41	8.16
195	213.0_s_201_3.0_F	201	174.92	26.08	12.98
29	29.0_s_202_2.6_F	202	125.65	76.35	37.80
149	166.0_s_203_4.0_F	203	226.37	23.37	11.51
173	190.0_s_204_4.0_F	204	205.67	1.67	0.82
377	505_s_204_4.0_F	204	199.94	4.06	1.99
258	278.0_s_206_4.0_F	206	210.50	4.5	2.18
83	97.0_s_206_2.0_M	206	177.20	28.8	13.98
387	524_s_206_7.0_F	206	176.71	29.29	14.22
340	390_s_207_2.6_F	207	203.64	3.36	1.62
360	452_s_209_2.0_F	209	202.26	6.74	3.22
331	365_s_209_2.6_M	209	219.88	10.88	5.21
150	167.0_s_209_2.5_M	209	158.86	50.14	23.99
172	189.0_s_211_3.0_F	211	196.70	14.3	6.78
204	222.0_s_211_4.0_F	211	137.95	73.05	34.62
121	136.0_s_212_5.0_F	212	207.32	4.68	2.21
295	316.0_s_212_3.6_F	212	161.82	50.18	23.67
228	247.0_s_215_3.0_F	215	163.48	51.52	23.96
218	237.0_s_215_5.0_F	215	138.64	76.36	35.52
65	78.0_s_216_5.0_F	216	222.18	6.18	2.86
66	79.0_s_216_3.0_F	216	206.98	9.02	4.18
153	170.0_s_216_4.0_F	216	196.78	19.22	8.90
102	116.0_s_216_3.0_F	216	187.73	28.27	13.09
93	107.0_s_216_3.6_F	216	133.90	82.1	38.01
225	244.0_s_218_4.0_F	218	148.57	69.43	31.85
298	319.0_s_219_2.6_F	219	186.09	32.91	15.03
271	291.0_s_220_4.0_F	220	165.97	54.03	24.56
135	151.0_s_223_5.6_F	223	211.72	11.28	5.06
120	135.0_s_223_4.0_F	223	178.30	44.7	20.04
50	51.0_s_224_2.0_F	224	228.46	4.46	1.99
188	206.0_s_224_2.6_M	224	194.21	29.79	13.30
118	132.0_s_224_3.0_F	224	187.32	36.68	16.38
71	84.0_s_224_5.0_F	224	173.70	50.3	22.46
151	168.0_s_226_3.0_F	226	173.35	52.65	23.30
180	198.0_s_226_6.0_F	226	142.33	83.67	37.02
61	74.0_s_229_8.0_F	229	202.89	26.11	11.40
	6.0_s_229_2.6_M	229	151.72	77.28	33.75
	0.0_s_229_2.6_F	229	145.81	83.19	36.33
	9_s_234_2.6_F	234	190.11	43.89	18.76
	2.0_s_234_4.0_F	234	170.54	63.46	27.12



(Lanjutan)

376	501_s_234_6.0_F	234	157.78	76.22	32.57
227	246.0_s_239_4.6_F	239	238.71	0.29	0.12
306	328.0_s_239_4.0_F	239	232.74	6.26	2.62
133	148.0_s_239_5.6_F	239	245.71	6.71	2.81
39	39.0_s_239_3.6_F	239	248.95	9.95	4.16
275	295.0_s_239_3.6_F	239	159.99	79.01	33.06
305	327.0_s_240_4.0_F	240	158.93	81.07	33.78
222	241.0_s_244_3.0_M	244	253.60	9.6	3.93
139	156.0_s_244_2.6_F	244	229.44	14.56	5.97
106	120.0_s_245_4.6_F	245	173.73	71.27	29.09
141	158.0_s_247_3.0_F	247	231.30	15.7	6.36
132	147.0_s_248_5.0_F	248	213.82	34.18	13.78
137	154.0_s_253_2.6_F	253	253.49	0.49	0.19
67	80.0_s_256_6.0_F	256	157.04	98.96	38.66
142	159.0_s_261_2.6_M	261	264.09	3.09	1.18
143	160.0_s_261_5.0_F	261	250.85	10.15	3.89
157	174.0_s_262_3.6_F	262	187.76	74.24	28.34
96	110.0_s_268_3.6_F	268	180.69	87.31	32.58
281	301.0_s_283_5.0_F	283	182.08	100.92	35.66
182	200.0_s_291_3.0_F	291	277.90	13.1	4.50
179	197.0_s_294_6.0_F	294	272.80	21.2	7.21
370	474_s_300_4.0_F	300	228.90	71.1	23.70
134	149.0_s_300_6.0_F	300	201.87	98.13	32.71
32	32.0_s_312_3.6_F	312	229.79	82.21	26.35
197	215.0_s_335_2.7_F	335	229.51	105.49	31.49
Jumlah Error(kg) 9127.4					
MAE 24.87 kg					
Jumlah Error% 5247.23					
MAPE 14.30%					

