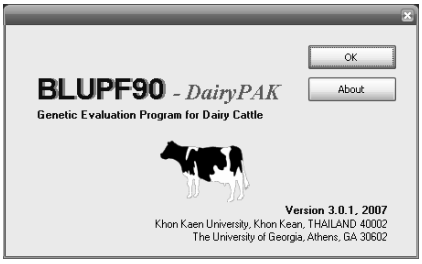
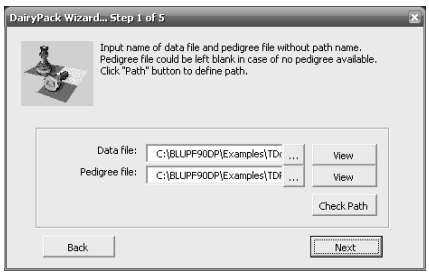
III. Genetic Evaluation At A Glance

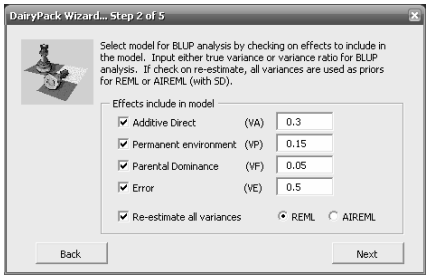
A. General View



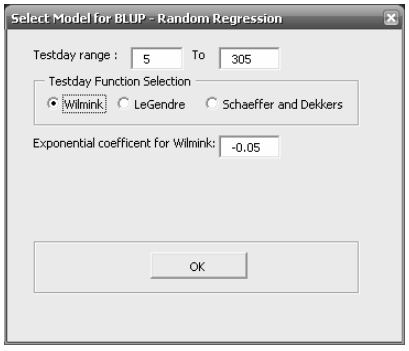
1. *DairyPAK* is a set of programs in BLUPF90 family with the specific purpose for dairy cattle evaluation.



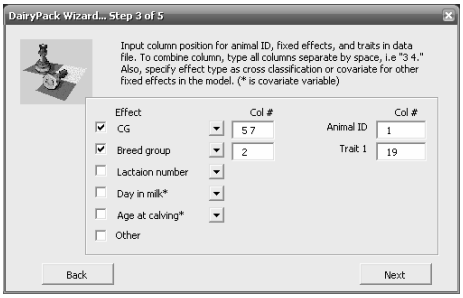
2. *DairyPAK* performs variance component estimation using REML and BLUP methodology with wizard interface. Data file and pedigree files can be browsed directly from computer.



3. BLUP analysis can be done directly with true variance or variance ratio. In addition, the user can re-estimate variance components with REML or AIREML.

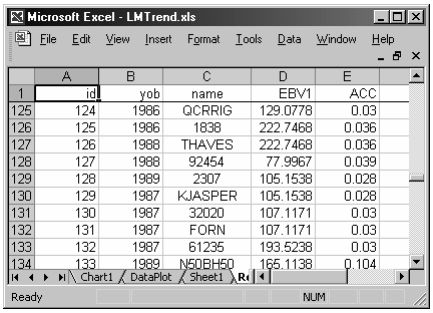


4. If random regression model is interested, three day in milk function of Wilmink, LeGendre, and Schaeffer and Dekkers can be selected. Range of DIM interval and exponential coefficient for Wilmink's function can be specified.



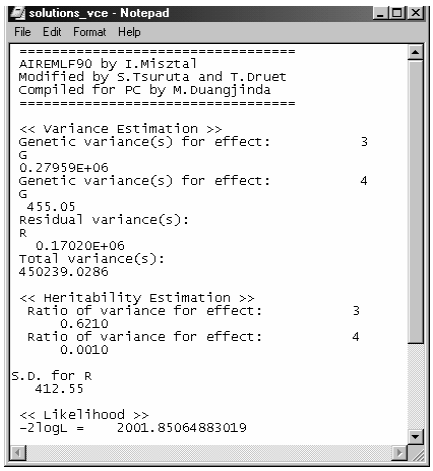
5. All effects in the model are simply specified by column number in original data file.

B. View of Reports

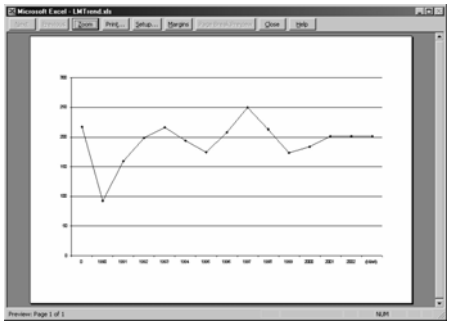


	A	B	C	D	E
1	id	yob	name	EBV1	ACC
125	124	1986	QCRRIG	129.0778	0.03
126	125	1986	1838	222.7468	0.036
127	126	1988	THAVES	222.7468	0.036
128	127	1988	92454	77.9967	0.039
129	128	1989	2307	105.1538	0.028
130	129	1987	KJASPER	105.1538	0.028
131	130	1987	32020	107.1171	0.03
132	131	1987	FORN	107.1171	0.03
133	132	1987	61235	193.5238	0.03
134	133	1989	N50BH50	165.1138	0.104

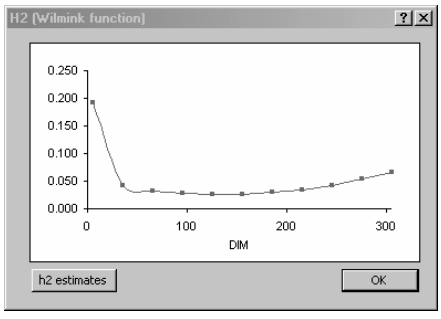
6. BLUP EBV report with accuracy is created using original ID in Excel format. Therefore, sorting, filtering can be done simply using Excel functions.



7. If REML or AIREML variance component estimation is performed, the new variance estimates are kept in a separate file.

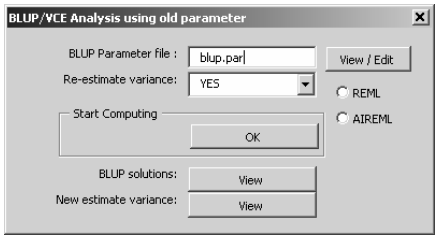


8. A genetic trend report is also created if desired. All graphic properties can be modified using general Excel features.

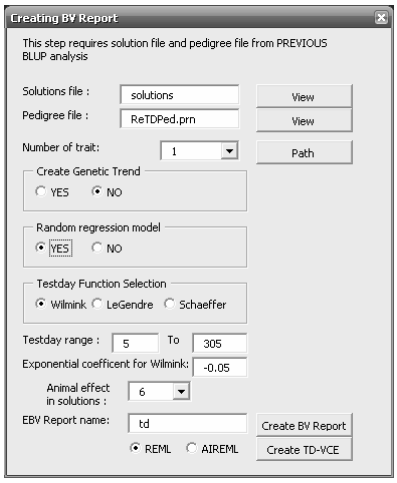


9. Estimates variance under random regression model provides test-day heritability plot.

C. Advanced Options

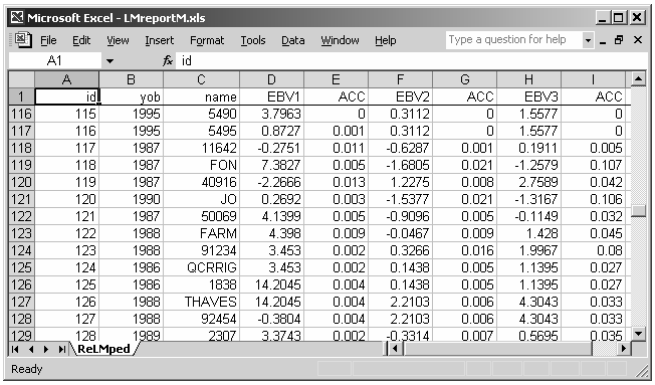


10. Previous renumbered data and pedigree file with parameter file can be modified and reanalyzed.



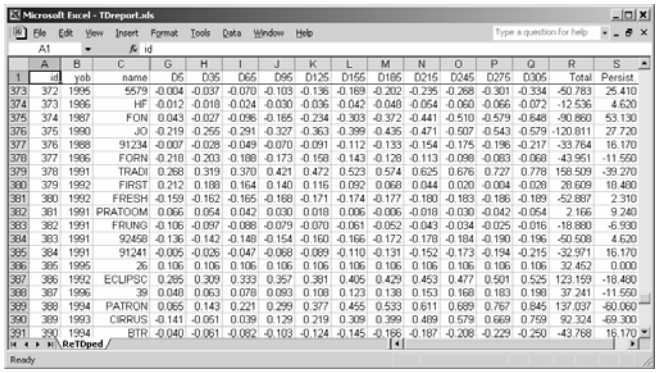
11. BV reports for single trait, multi-trait or random regression from previous solutions from DairyPAK or another BLUP family can be recreated with specified options.

12. Multiple trait BV reports with accuracy can be created up to four traits.



	A	B	C	D	E	F	G	H	I
1	id	yob	name	EBV1	ACC	EBV2	ACC	EBV3	ACC
116	115	1995	5490	3.7963	0	0.3112	0	1.5577	0
117	116	1995	5495	0.8727	0.001	0.3112	0	1.5577	0
118	117	1987	11642	-0.2751	0.011	-0.6287	0.001	0.1911	0.005
119	118	1987	FON	7.3827	0.005	-1.6805	0.021	-1.2579	0.107
120	119	1987	40916	-2.2666	0.013	1.2275	0.008	2.7589	0.042
121	120	1990	JO	0.2692	0.003	-1.5377	0.021	-1.3167	0.106
122	121	1987	50069	4.1399	0.005	-0.9096	0.005	-0.1149	0.032
123	122	1988	FARM	4.398	0.009	-0.0467	0.009	1.428	0.045
124	123	1988	91234	3.453	0.002	0.3266	0.016	1.9967	0.08
125	124	1986	QCRRIG	3.453	0.002	0.1438	0.005	1.1395	0.027
126	125	1986	1838	14.2045	0.004	0.1438	0.005	1.1395	0.027
127	126	1988	THAVES	14.2045	0.004	2.2103	0.006	4.3043	0.033
128	127	1988	92454	-0.3804	0.004	2.2103	0.006	4.3043	0.033
129	128	1989	2307	3.3743	0.002	-0.3314	0.007	0.5695	0.035

13. For random regression model, BV report for 10 test days from specified interval of day in milk was easily calculated. Therefore, BV for each sire can be plot against DIM later with Excel chart.



	A	B	C	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	id	yob	name	D5	D35	D65	D95	D125	D155	D185	D215	D245	D275	D305	Total	Persist
373	372	1995	5579	-0.004	-0.037	-0.070	-0.103	-0.136	-0.169	-0.202	-0.235	-0.268	-0.301	-0.334	-50.783	25.410
374	373	1986	HF	-0.012	-0.018	-0.024	-0.030	-0.036	-0.042	-0.048	-0.054	-0.060	-0.066	-0.072	-12.536	4.620
375	374	1987	FON	0.043	-0.027	-0.096	-0.165	-0.234	-0.303	-0.372	-0.441	-0.510	-0.579	-0.648	-90.860	53.130
376	375	1990	JO	-0.219	-0.255	-0.291	-0.327	-0.363	-0.399	-0.435	-0.471	-0.507	-0.543	-0.579	-120.811	27.720
377	376	1988	91234	-0.007	-0.028	-0.049	-0.070	-0.091	-0.112	-0.133	-0.154	-0.175	-0.196	-0.217	-33.764	16.170
378	377	1986	FORN	-0.218	-0.203	-0.188	-0.173	-0.158	-0.143	-0.128	-0.113	-0.098	-0.083	-0.068	-43.951	-11.550
379	378	1991	TRADI	0.268	0.319	0.370	0.421	0.472	0.523	0.574	0.625	0.676	0.727	0.778	158.509	-39.270
380	379	1992	FIRST	0.212	0.188	0.164	0.140	0.116	0.092	0.068	0.044	0.020	-0.004	-0.028	28.609	18.480
381	380	1992	FRESH	-0.159	-0.162	-0.165	-0.168	-0.171	-0.174	-0.177	-0.180	-0.183	-0.186	-0.189	-52.887	2.310
382	381	1991	PRATOOM	0.066	0.054	0.042	0.030	0.018	0.006	-0.006	-0.018	-0.030	-0.042	-0.054	2.166	9.240
383	382	1991	FRUNG	-0.106	-0.097	-0.088	-0.079	-0.070	-0.061	-0.052	-0.043	-0.034	-0.025	-0.016	-18.880	-6.930
384	383	1991	92458	-0.136	-0.142	-0.148	-0.154	-0.160	-0.166	-0.172	-0.178	-0.184	-0.190	-0.196	-50.508	4.620
385	384	1991	91241	-0.005	-0.026	-0.047	-0.068	-0.089	-0.110	-0.131	-0.152	-0.173	-0.194	-0.215	-32.971	16.170
386	385	1995	26	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	32.452	0.000
387	386	1992	ECLIPSC	0.285	0.309	0.333	0.357	0.381	0.405	0.429	0.453	0.477	0.501	0.525	123.159	-18.480
388	387	1996	39	0.048	0.063	0.078	0.093	0.108	0.123	0.138	0.153	0.168	0.183	0.198	37.241	-11.550
389	388	1994	PATRON	0.065	0.143	0.221	0.299	0.377	0.455	0.533	0.611	0.689	0.767	0.845	137.037	-60.060
390	389	1993	CIRRUS	-0.141	-0.051	0.039	0.129	0.219	0.309	0.399	0.489	0.579	0.669	0.759	92.324	-69.300
391	390	1994	BTR	-0.040	-0.061	-0.082	-0.103	-0.124	-0.145	-0.166	-0.187	-0.208	-0.229	-0.250	-43.768	16.170