THE MASPOT POPULATION

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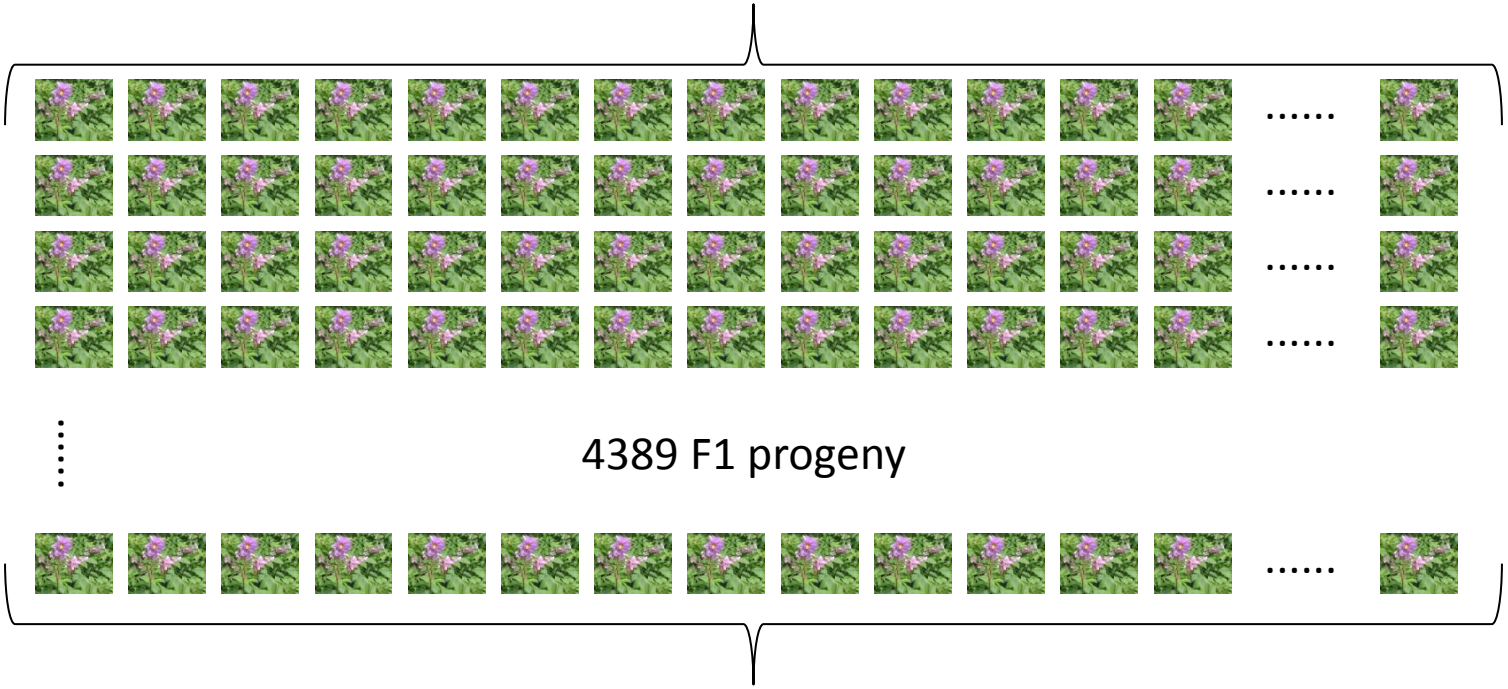
Parents:

CV1 CV2 CV3 ..... CV18

Pairwise crossed



Traits phenotyped:

Chipping Qual
Tuber shape
Earliness

Yield
Dry matter

Late Blight resistance
Pallida resistance

04-GIV-03
05-GQE-02
07-LIX-5
07-LIX-5
07-LJE-1
89-BJQ-4
93-CAQ-14
96-BYM-8
Agria
Desiree
Desiree
Isle of Jura
Jutlandia
Kuras
Rywal
Sarpo Mira
Shepody
Spunta

PHENOTYPE DISTRIBUTION CHIPPING QUALITY

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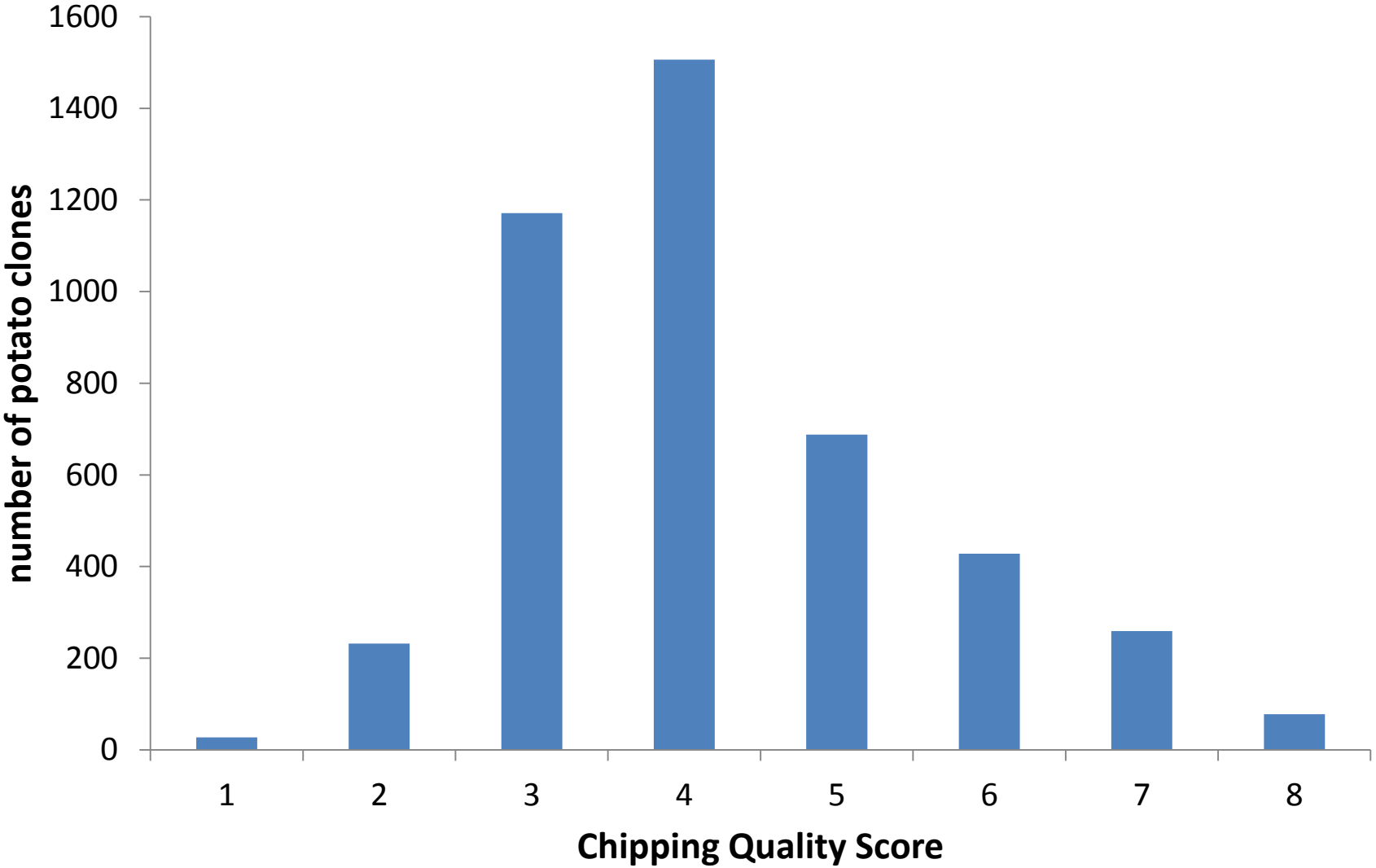
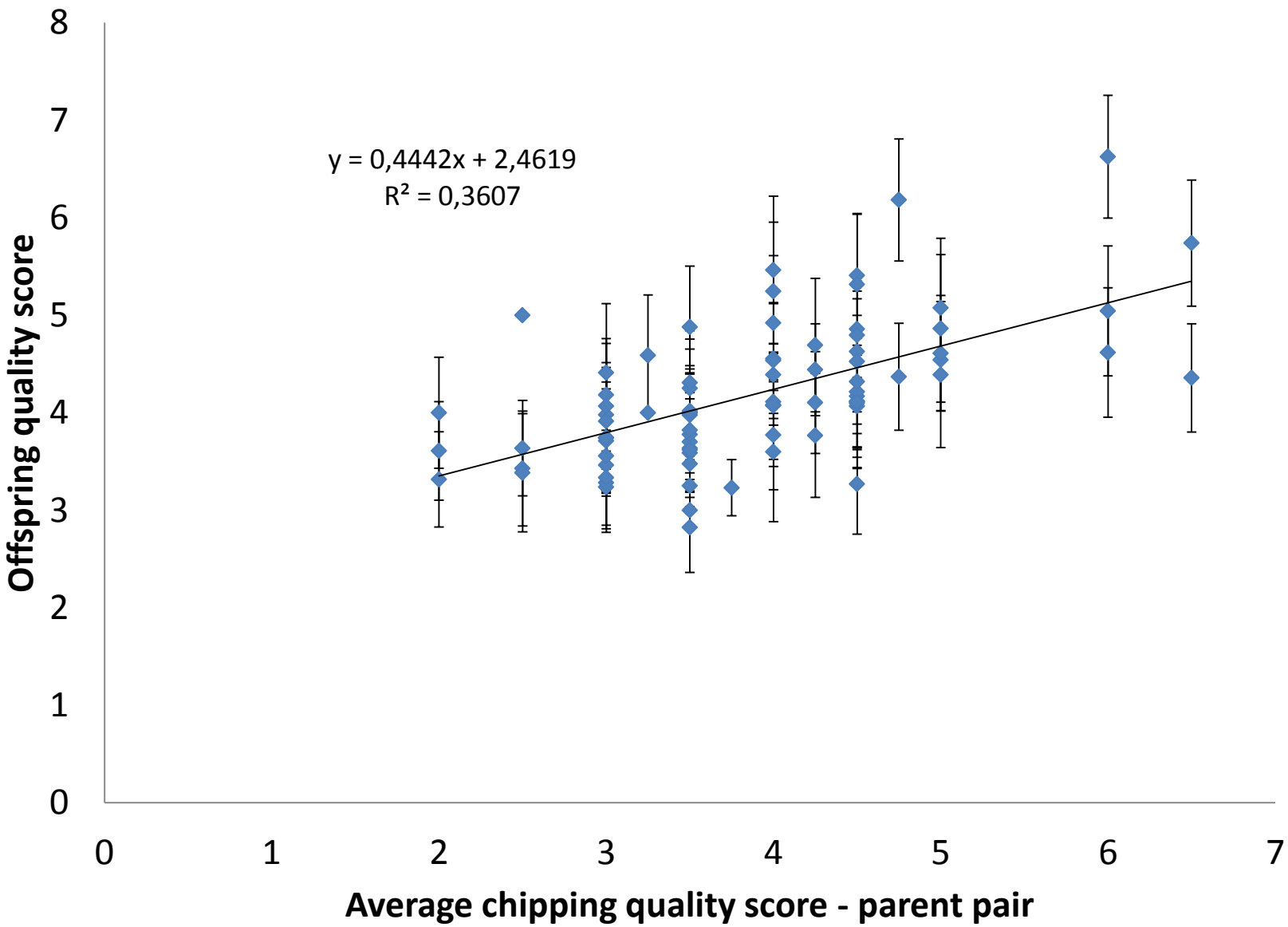


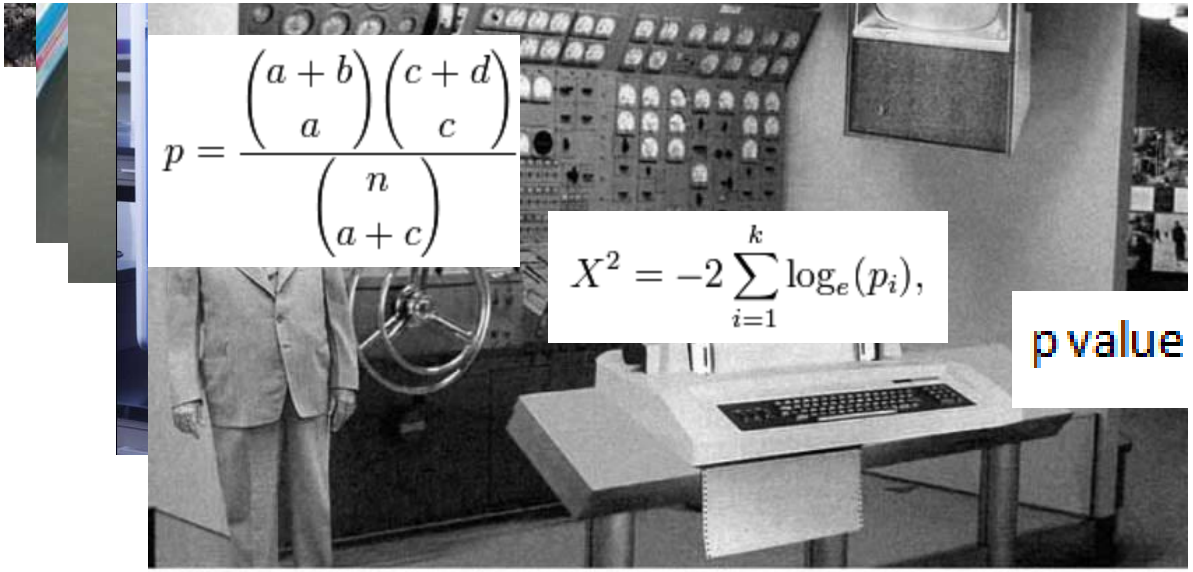
CHIPPING QUALITY IS HERITABLE



Chr	position	Parent dist				Bulk dist			
		A	T	G	C	A	T	G	C
…	…	…	…	…	…	…	…	…	…
Chr4	1272	19	0	0	19	13	0	0	4
Chr4	1470	0	16	16	0	0	6	11	0

$$\text{p value}(p,n) = 1 - \frac{\gamma\left(8/2, -\left(\ln\frac{\left(\frac{f_{exp}(n=A)+f_{obs}(n=A)}{f_{exp}(n=A)}\right)\left(\frac{f_{exp}(n\neq A)+f_{obs}(n\neq A)}{f_{exp}(n\neq A)}\right)}{\left(\frac{\text{Total read coverage}}{f_{exp}(n=A)+f_{exp}(n\neq A)}\right)} + \ln\frac{\left(\frac{f_{exp}(n=G)+f_{obs}(n=G)}{f_{exp}(n=G)}\right)\left(\frac{f_{exp}(n\neq G)+f_{obs}(n\neq G)}{f_{exp}(n\neq G)}\right)}{\left(\frac{\text{Total read coverage}}{f_{exp}(n=G)+f_{exp}(n\neq G)}\right)} + \ln\frac{\left(\frac{f_{exp}(n=C)+f_{obs}(n=C)}{f_{exp}(n=C)}\right)\left(\frac{f_{exp}(n\neq C)+f_{obs}(n\neq C)}{f_{exp}(n\neq C)}\right)}{\left(\frac{\text{Total read coverage}}{f_{exp}(n=C)+f_{exp}(n\neq C)}\right)} + \ln\frac{\left(\frac{f_{exp}(n=T)+f_{obs}(n=T)}{f_{exp}(n=T)}\right)\left(\frac{f_{exp}(n\neq T)+f_{obs}(n\neq T)}{f_{exp}(n\neq T)}\right)}{\left(\frac{\text{Total read coverage}}{f_{exp}(n=T)+f_{exp}(n\neq T)}\right)}\right)\right)}{\Gamma(8/2)}$$

Γ = gamma function; γ= lower incomplete gamma function; $\binom{n}{k}$ = bionomial coefficient; exp=parental distribution; obs=bulk distribution; p=base position n=base value



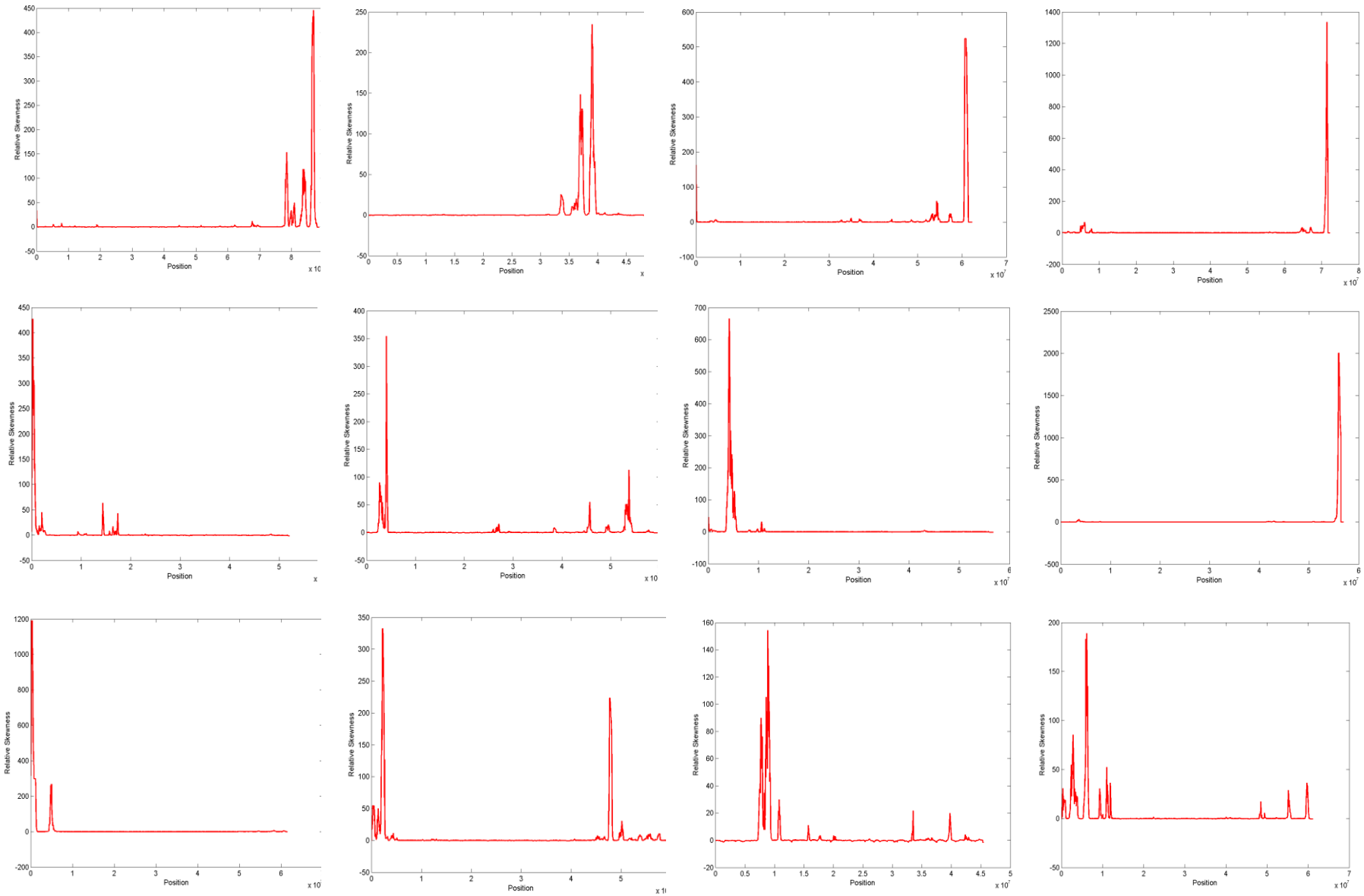
$$p = \frac{\binom{a+b}{a}\binom{c+d}{c}}{\binom{n}{a+c}}$$

$$X^2 = -2\sum_{i=1}^{k}\log_e(p_i),$$

p value =Chidist(χ^2;8)

Scientists from the RAND Corporation have created this model to illustrate how a "home computer" could look like in the year 2004. However the needed technology will not be economically feasible for the average home. Also the scientists readily admit that the computer will require not yet invented technology to actually work, but 50 years from now scientific progress is expected to solve these problems. With teletype interface and the Fortran language, the computer will be easy to use.

NON RANDOMLY DISTRIBUTED GENOMIC REGIONS



CANDIDATE GENES

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CH01: PUTATIVE NEUTRAL INVERTASE

CH02: SUCROSE SYNTHASE

CH03: CELL WALL INVERTASE

CH04: ALPHA AMYLASE

CH05: BETA CLUCOSIDASE

CH06: HYDROLASE, HYDROLYZING O-GLYCOSYL COMPOUNDS

CH07: HYDROLASE, HYDROLYZING O-GLYCOSYL COMPOUNDS

HYDROLASE, HYDROLYZING O-GLYCOSYL COMPOUNDS

CH08: BETA AMYLASE

CH09: GLYCEROL-3-PHOSPHATE ACYLTRANSFERASE 6

GLYCOSYLTRANSFERASE

CH10: LACTOSE PERMEASE (NOT REALLY LACTOSE)

CH11: SUCROSE TRANSPORT PROTEIN

CH12: SUCROSE SYNTHASE

PARTNERS

LKF Vandel

AALBORG UNIVERSITET