

Table 1: Possible Rankings of A , B , and C and Corresponding Posterior Probabilities. Because of rounding, not all columns sum to one.

(R_A, R_B, R_C)	<i>Errors</i> $g(\mathbf{R})$	<i>Posterior probability</i> <i>as a function of β</i>	<i>Posterior probability for specified β</i>			
			$\beta = .5$	$\beta = .3$	$\beta = .1$	$\beta = .01$
(1, 2, 3)	0	$1/(1 + 2\beta + 2\beta^2 + \beta^3)$	.381	.553	.819	.980
(1, 3, 2)	1	$\beta/(1 + 2\beta + 2\beta^2 + \beta^3)$	.190	.166	.082	.010
(2, 1, 3)	1	$\beta/(1 + 2\beta + 2\beta^2 + \beta^3)$	.190	.166	.082	.010
(2, 3, 1)	2	$\beta^2/(1 + 2\beta + 2\beta^2 + \beta^3)$	.095	.050	.008	.000
(3, 1, 2)	2	$\beta^2/(1 + 2\beta + 2\beta^2 + \beta^3)$.095	.050	.008	.000
(3, 2, 1)	3	$\beta^3/(1 + 2\beta + 2\beta^2 + \beta^3)$.048	.015	.001	.000

1.1.1 This is a tertiary head

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2. Another Primary Subhead

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$$\hat{\rho} \equiv \frac{\sum_{j=1}^J \sum_{i=1}^n (x_{ij} - \bar{x}_{..})(y_{ij} - \bar{y}_{.j})}{\sqrt{\sum_{j=1}^J \sum_{i=1}^n (x_{ij} - \bar{x}_{..})^2 \sum_{j=1}^J \sum_{i=1}^n (y_{ij} - \bar{y}_{.j})^2}}.$$

Version 2 uses the maximum likelihood estimate of ρ .

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However, for large J and small n , the version 1 approach does not perform as well.

REFERENCES

Annual Book of ASTM Standards, Volume 4.10, Committee D-

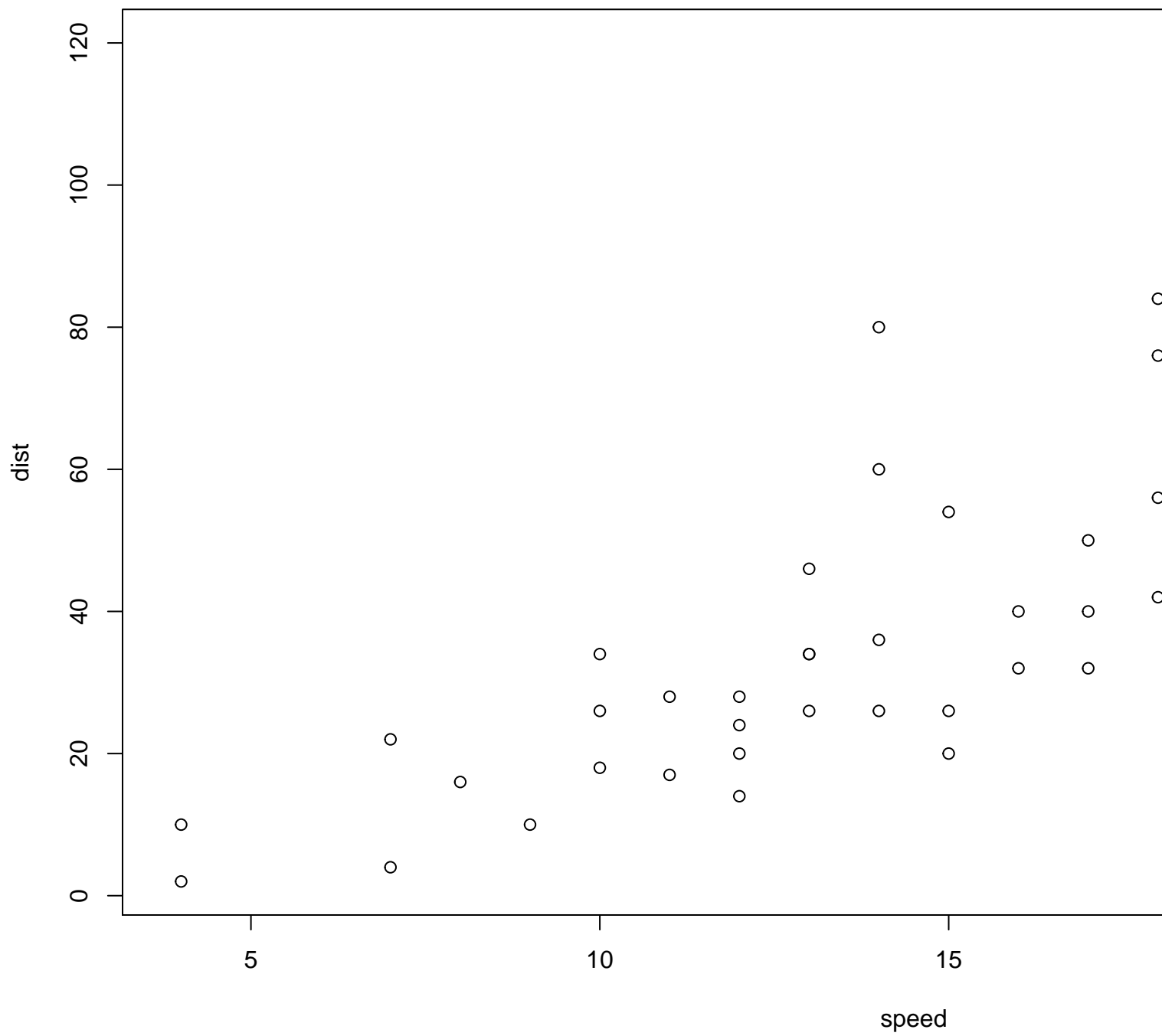


Figure 1: Actual confidence interval coverages, $J = 4$, $\rho = .85$, nominal confidence level = .75, quantile = .01

- 7, American Society for Testing and Materials, West Conshohocken, Pennsylvania.
- Cochran, W.G. (1957), "Analysis of Covariance: Its Nature and Uses," *Biometrics*, **13**, 261-281.
- Cox, D.R. (1957), "The Use of a Concomitant Variable in Selecting an Experimental Design," *Biometrika*, **44**, 150-158.
- David, H.A. and Gunnik, J.L. (1997), "The Paired t Test Under Artificial Pairing," *The American Statistician*, **51**, 9-12.
- Gibbons, R.D. (1994), *Statistical Methods for Groundwater Monitoring*, John Wiley and Sons, New York.
- Guttman, I. (1970), *Statistical Tolerance Regions: Classical and Bayesian*, Hafner Publishing Company, Darien, Connecticut.
- Michigan DEQ (1994), *Guidance Document, Verification of Soil Remediation*, Hazardous Waste Program Section, Waste Management Division, Michigan Department of Environmental Quality, Lansing, Michigan.
- Owen, D.B. (1963), *Factors for one-sided tolerance limits and for variable sampling plans*, Sandia Corporation Monograph No. SCR-607 (19th edn).
- MIL-HDBK-17-1, *Composite Materials Handbook, Volume 1, Guidelines for Characterization of Structural Materials*, Department of Defense Single Stock Point, Philadelphia, Pennsylvania (<http://www.dodssp.daps.mil>).
- Verrill, S.P. (1993), "Predictor Sort Sampling, Tight T 's, and the Analysis of Covariance," *Journal of the American Statistical Association*, **88**, 119-124.
- Verrill, S.P. (1999), "When Good Confidence Intervals Go Bad: Predictor Sort Experiments and ANOVA," *The American Statistician*, **53**, 38-42.
- Verrill, S.P., Herian, V.L., and Green, D.W. (2002a), "Predictor Sort Sampling and Confidence Bounds on Quantiles I: Asymptotic Theory," under review.
- Verrill, S.P., Herian, V.L., and Green, D.W. (2002b), "Predictor Sort Sampling and Confidence Bounds on Quantiles II: k 's for Small Samples," in preparation.
- Warren, W.G., and Madsen, B. (1977), "Computer-Assisted Experimental Design in Forest Products Research: A Case Study Based on Testing the Duration-of-Load Effect," *Forest Products Journal*, **27**, 45-50.

Table 2: Possible Rankings of A , B , and C and Corresponding Posterior Probabilities. Because of rounding, not all columns sum to one.

$\beta = .5$	$\beta = .3$	$\beta = .1$	$\beta = .01$
.381	.553	.819	.980
.190	.166	.082	.010
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.095	.050	.008	.000
.095	.050	.008	.000
.048	.015	.001	.000