(1) 1요인 변량효과 분산분석 모형

$E(MSTR)=\sigma^2+n'\sigma_\mu^2,\ n'=(N-\sum n_i^2/N)/(p-1)$

(2) 반복이 없는 2요인 모형

변인	EMS		
	Fixed	Random	Mixed(A:고정, B:변량)
A	$\sigma^2+\frac{b}{a-1}\sum_i \alpha_i^2$	$\sigma^2+b\sigma_\alpha^2$	$\sigma^2+\frac{b}{a-1}\sum_i \alpha_i^2$
B	$\sigma^2+\frac{a}{b-1}\sum_j \beta_j^2$	$\sigma^2+a\sigma_\beta^2$	$\sigma^2+a\sigma_\beta^2$

(3) 반복이 있는 2요인 모형

변인	EMS		
	Fixed	Random	Mixed(A:고정, B:변량)
A	$\sigma^2+\frac{nb}{a-1}\sum_i \alpha_i^2$	$\sigma^2+n\sigma_{(\alpha\beta)}^2+nb\sigma_\alpha^2$	$\sigma^2+n\sigma_{(\alpha\beta)}^2+\frac{nb}{a-1}\sum_i \alpha_i^2$
B	$\sigma^2+\frac{na}{b-1}\sum_j \beta_j^2$	$\sigma^2+n\sigma_{(\alpha\beta)}^2+na\sigma_\beta^2$	$\sigma^2+na\sigma_\beta^2$
(AB)	$\sigma^2+\frac{n}{(a-1)(b-1)}\sum_{ij}(\alpha\beta)_{ij}^2$	$\sigma^2+n\sigma_{(\alpha\beta)}^2$	$\sigma^2+n\sigma_{(\alpha\beta)}^2$

(4) 반복 측정 분산 분석

1) 단일 요인 반복 측정 분산 분석

- $E(MSB)=\sigma^2+p\sigma_s^2$
- $E(MSTR)=\sigma^2+n\sum\tau_j^2/(p-1)$

2) 다요인 반복 측정 분산 분석

- $E(MSA)=\sigma^2+b\sigma_s^2+bs\sum\alpha_j^2/(a-1)$
- $E(MSB)=\sigma^2+as\sum\beta_k^2/(b-1)$
- $E(MS(AB))=\sigma^2+s\sum\sum(\alpha\beta)_{jk}^2/((a-1)(b-1))$
- $E(MSS(A))=\sigma^2+b\sigma_s^2$