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.(p< /)

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(Huntington, 1997)

.(Overton & Waldron, 2004)

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(Shirley & Park, 2003)

(Drackley et al.,

.2001; Hayirili & Grummer, 2004)

.(Huntington, 1997)

.(Huntington, 1997)

.(Drackley, 1999)

.(NRC, 2001)

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Dirksen et al. .

(Huntington, 1997;

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(1985)

.NRC, 2001)

.(NRC, 2001)

.(Mashek & Beede, 2001)

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.(Shirley & Park, 2003)

SAS

(1999)

$$Y_{ijk} = \mu + T_i + W_j + TW_{ij} + C_k(T_i) + \varepsilon_{ijk}$$

$$Y_{ijk} : \begin{matrix} \mu \\ TW_{ij} \\ \varepsilon_{ijk} \end{matrix} \quad \begin{matrix} W_j \\ C_k(T_i) \end{matrix} \quad T_i$$

(Wildman et al., 1982)

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(NRC, 2001)

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pH

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p < /

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pH

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1. Proc Mixed
 2. repeated Measures
 3. Compound Symmetric, Unstructured, autoregressive order-1
 4. Akaike's Information Criterion

(Defrain et al., 2005)

(1999) Dann et al. 1998; Rabelo et al., 2003)

(2002) Ordway et al. . (p< /)

(NRC, 2001) pH
(p< /)

(Fox et al., 2004;
Huntington, 1997)
(p< /)

(2007) Bradford & Allen .

(NRC, 2001)

(Rabelo et al., 2003)

(Hayirili & Grummer, 2004; Ingvarsten &
Andersen, 2000)

(Nikkhah et al., 2008) (Dirksen et al., 1985)

pH (Penner et al., 2007; Smith et al., 2005)

pH pH (p< /)
(Oetzel, 2004) (Dann et al., 1999; Minor et al.,

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