Direct Effect of Hormones on Wool Growth

Produced for the CRC for Premium Quality Wool undergraduate program by;
Dr. Peter Wynn, The University of Sydney.
Direct Effects

• There is no overriding hormonal control of follicle function
  – Prolactin has a direct effect but not much in the Merino
  – Pharmacological doses of glucocorticoids can stop follicle function
  – Lack of T4 can stop wool growth

• No hormone can affect wool growth without affecting other body functions
Physiological mechanisms that affect follicle cells

**+ve**
- Cortisol (low levels)
- Thyroid hormones
- GH ?
- Prolactin ?
- Insulin ?
- Others ?

**-ve**
- Cortisol (high levels)
- ACTH ?
- β-endorphin ?
- Adrenaline
- α-MSH ?
- Others ?

Growth factors

Protein
Cell division

Glucose
Hormones
Amino acids
Vasopressin

Peter Wynn