



Department of
Agriculture and Food

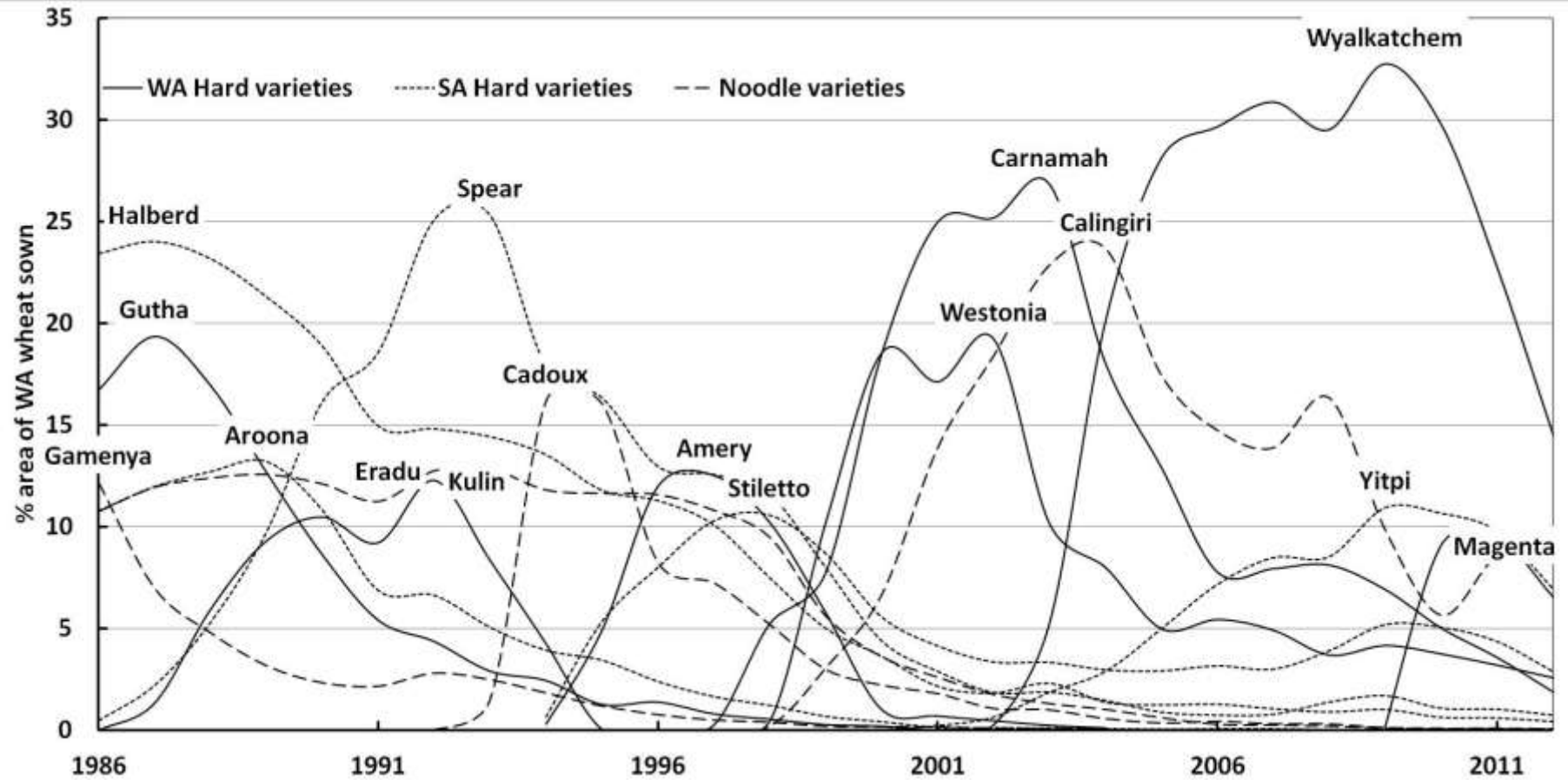


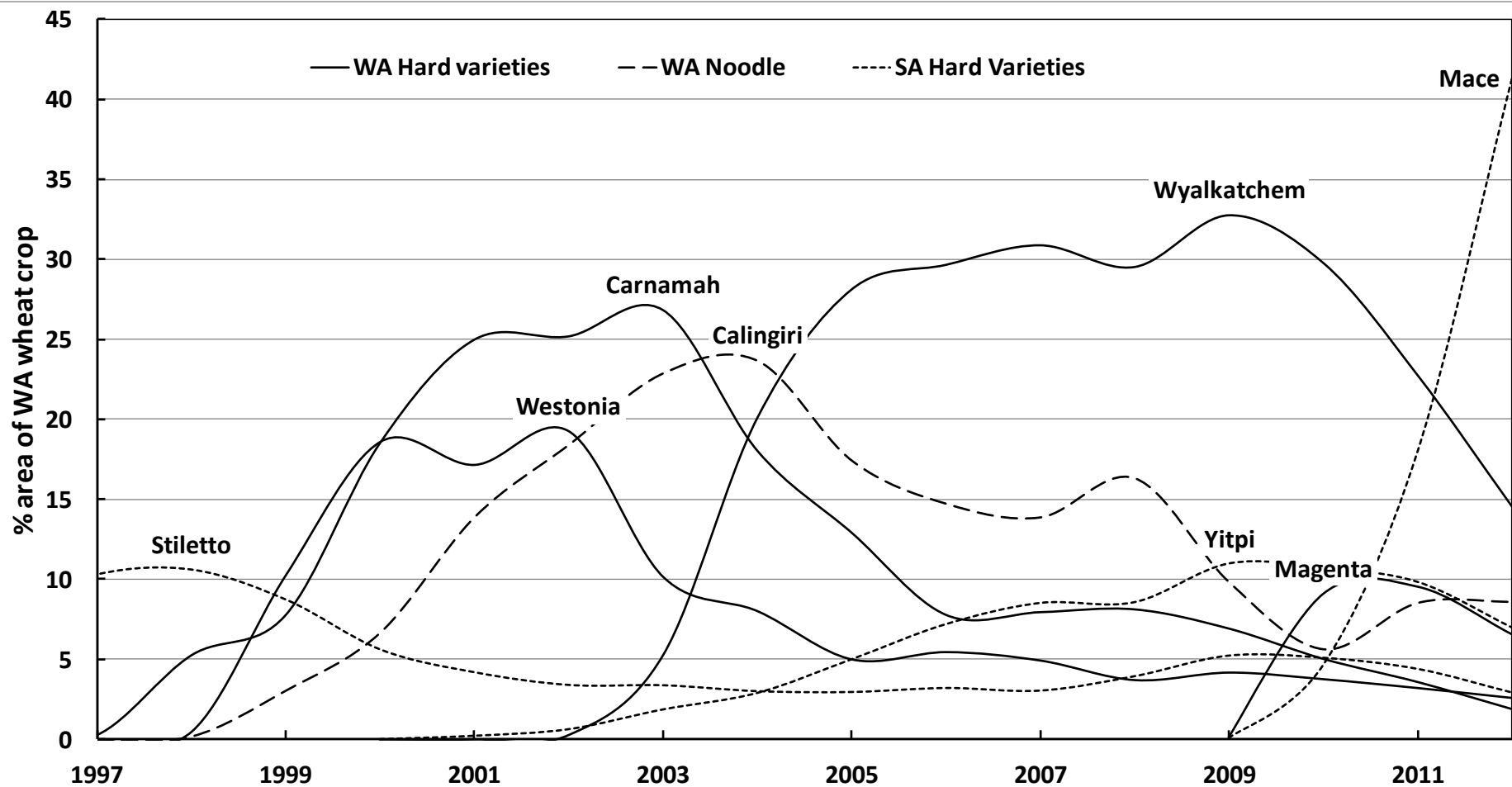
GRDC Grains Research &
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Wheat 2012 NVT trial results & key agronomy issues

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2013







Choice of Wheat Variety

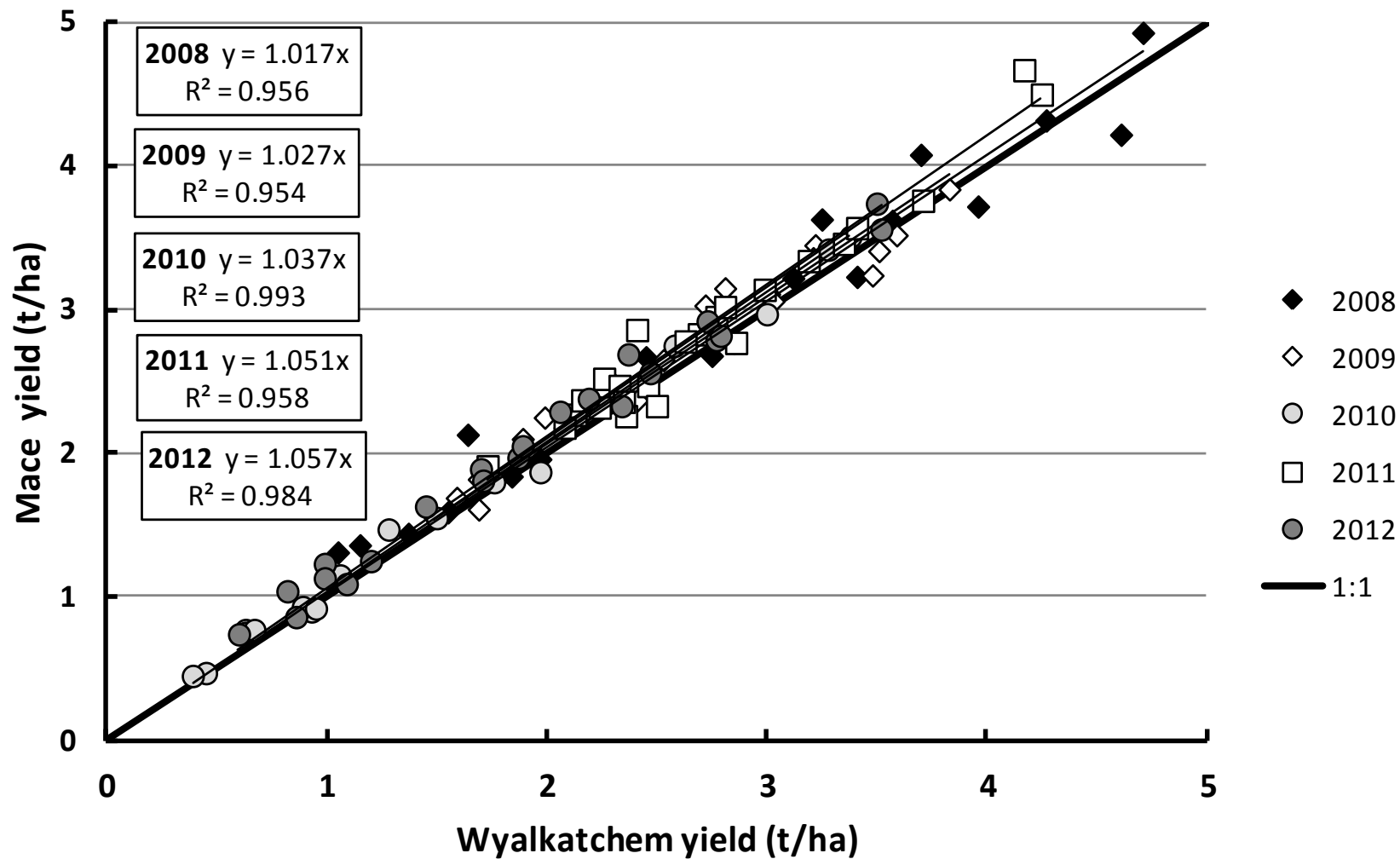
- Yield stability
- Quality stability: screenings, HLW and FN
- Grade: potential \$\$
- Cost of production: Fungicides for YLS??
- Specific adaptation: Early sowing, low pH, frost risk??

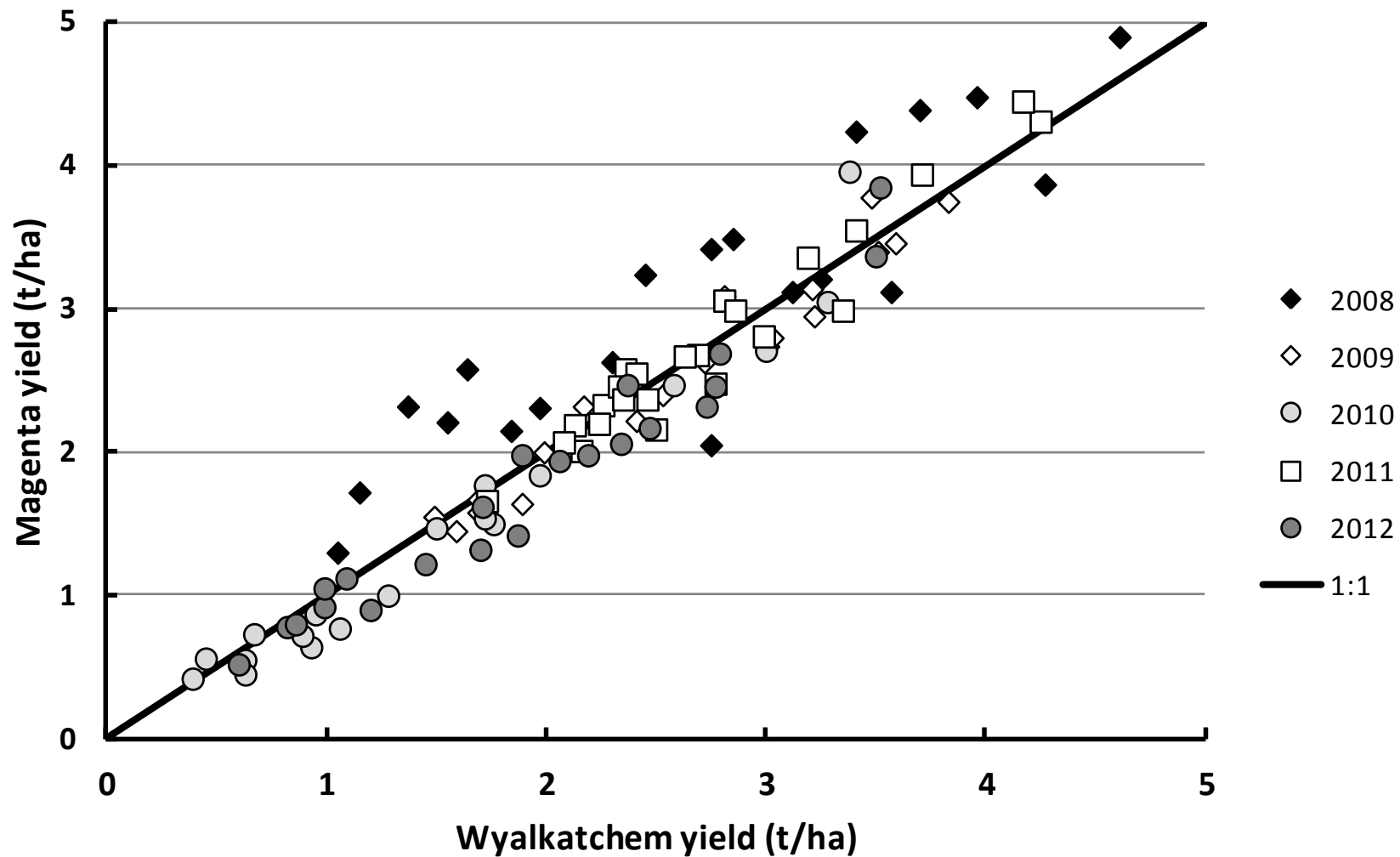


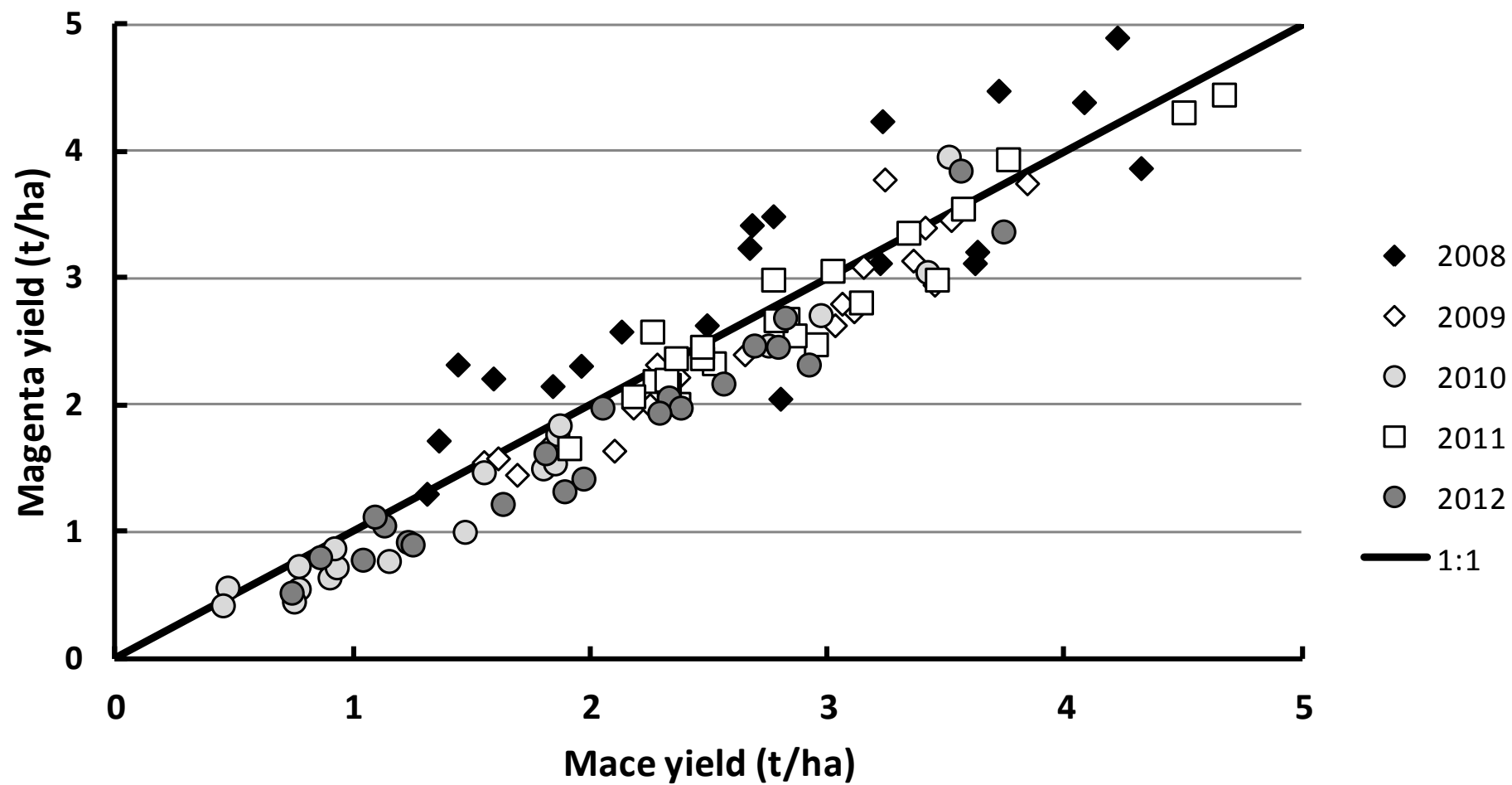
Summarising the NVT database

- Download data from NVT online
- Site mean yield 2008-12
- Site details: AgZone, sowing date, pH, previous crop
- Compared new releases to most popular variety...Mace
- Trends showed up best when restricted to AgZones 2&4









Influence of previous crop rotation on relative yield

- Can the NVTs tell us what is the best variety wheat after wheat?
- Very few sites W:W, low level of YLS at those sites
- Mace still the best variety
- Grower observations are very different

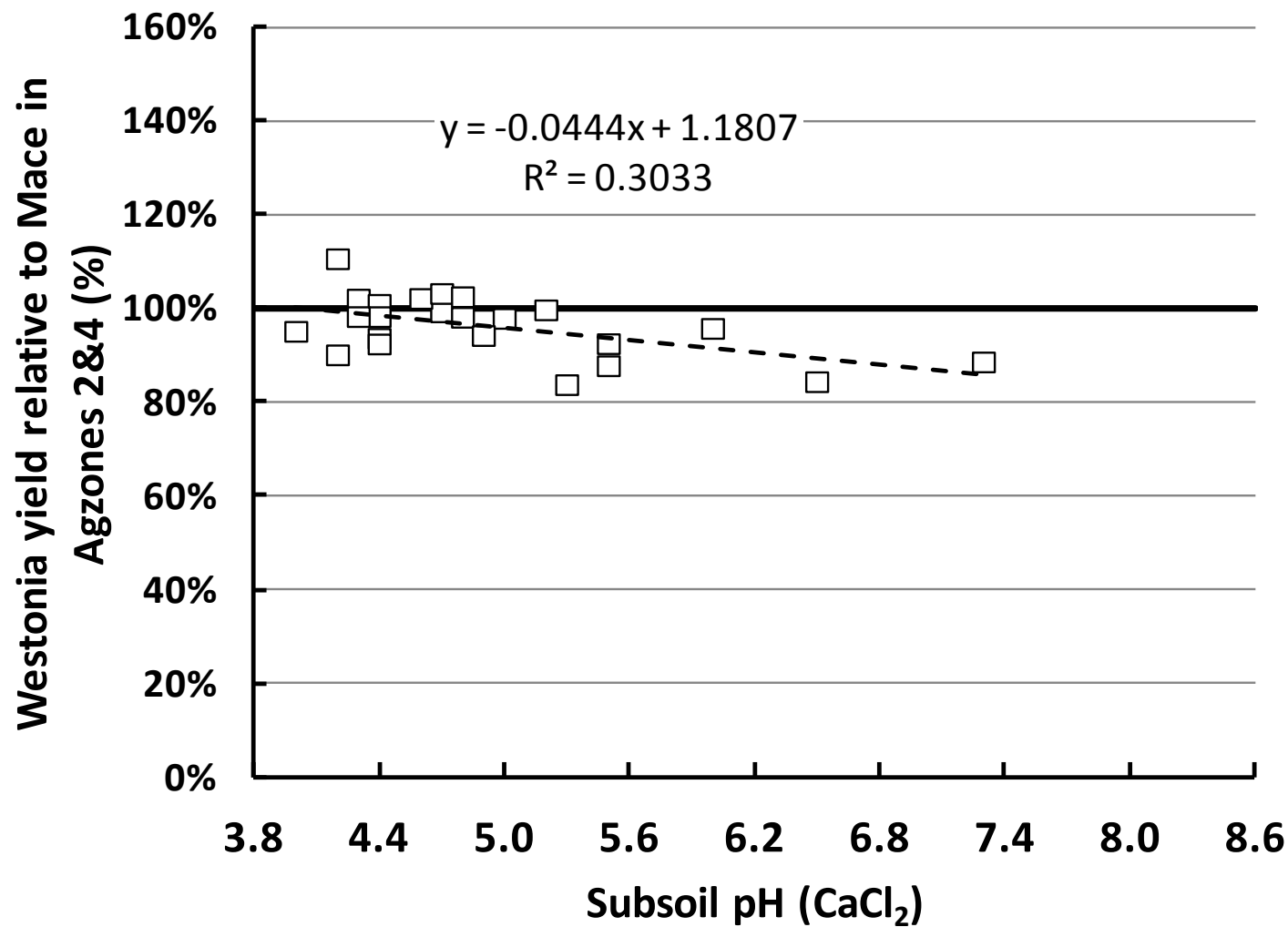


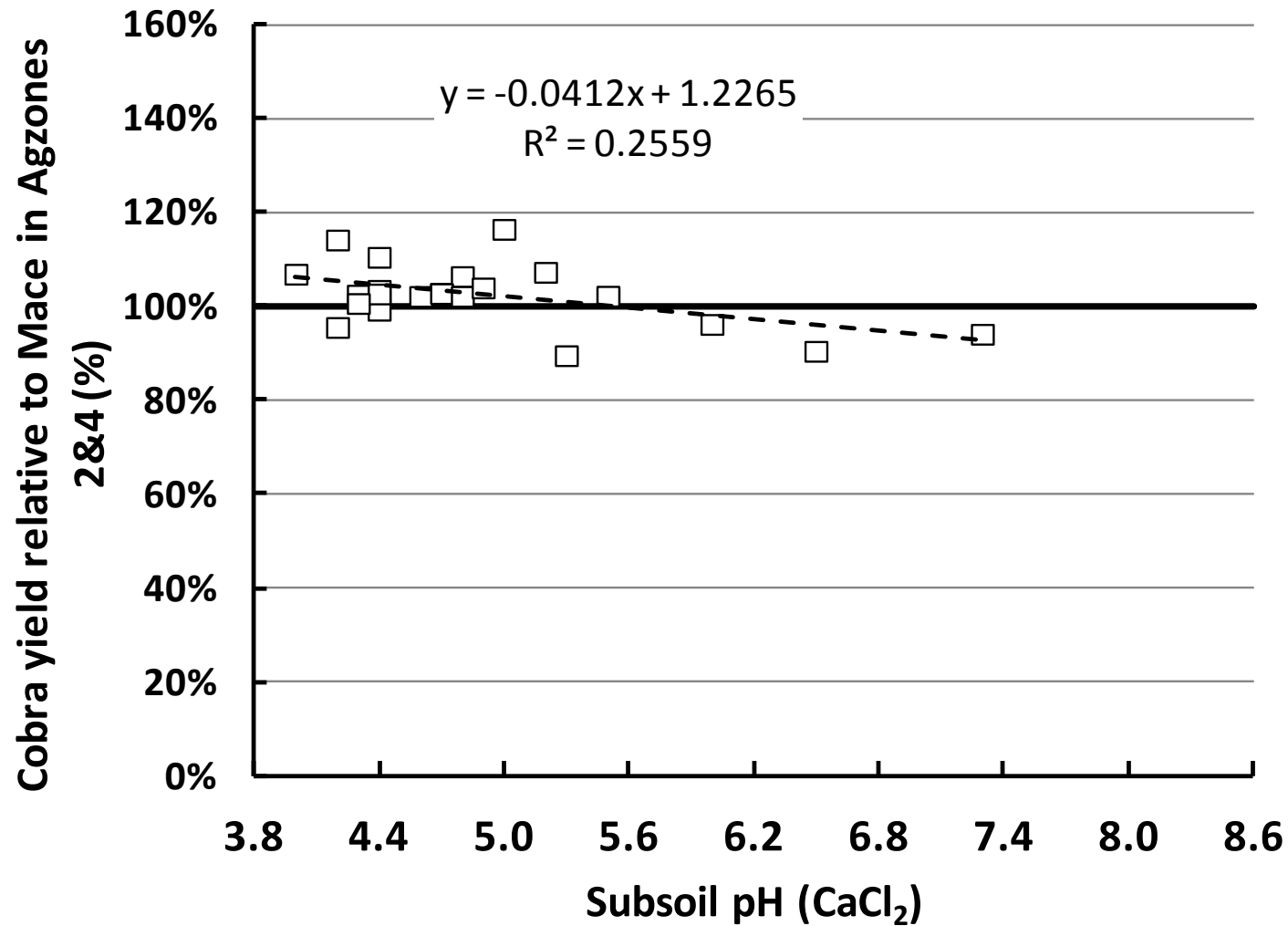
High YLS infection sites 2011

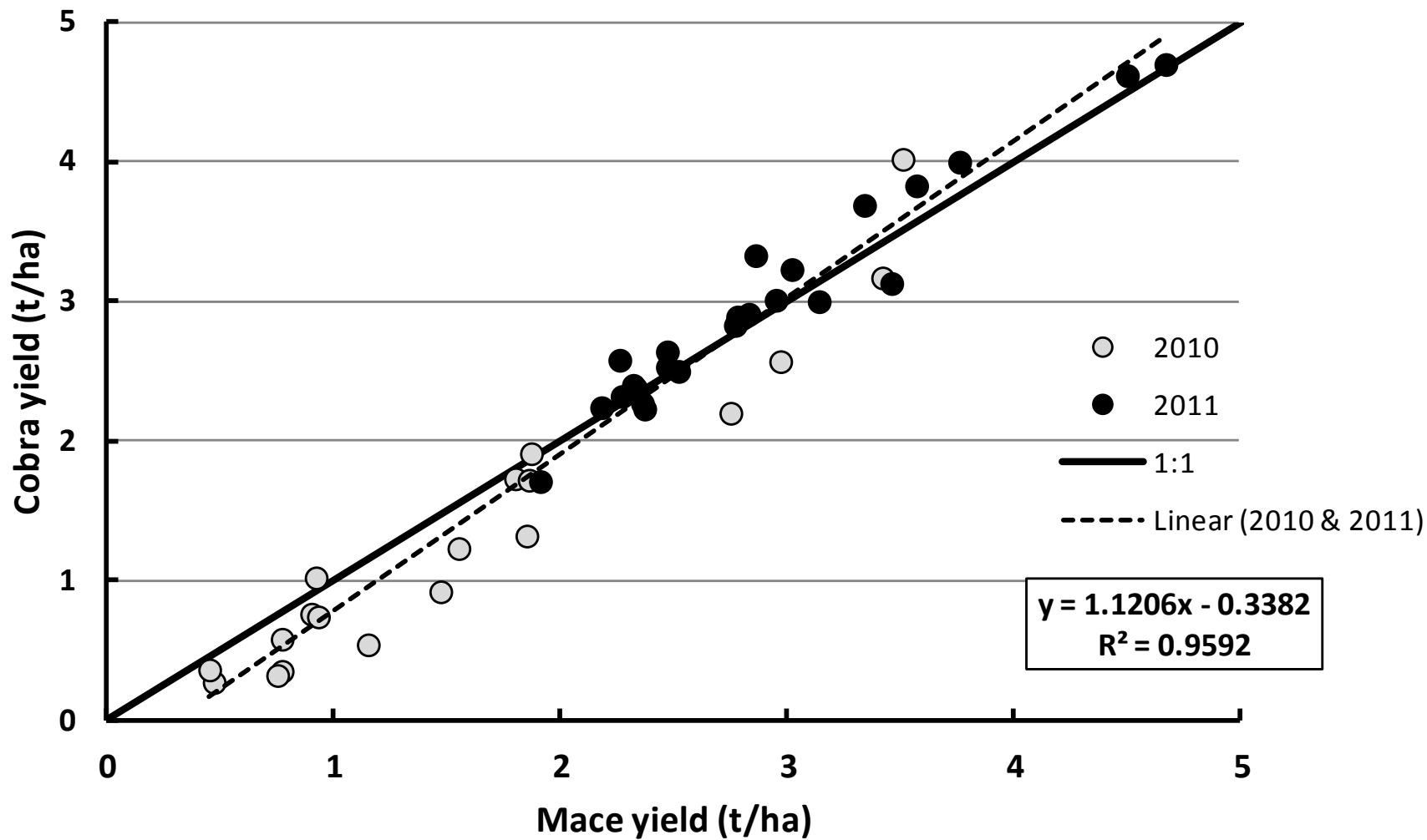
	Grain yield (t/ha)		Yield relative to Mace (%)	
Nearest Town	Mingenew	Buntine	Mingenew	Buntine
Sown	18/05/2011	25/05/2011	18/05/2011	25/05/2011
Mace	4.14	3.76	100	100
Magenta	4.61	3.94	111	105
Cobra	4.91	4.00	119	106
Corack	4.47	3.98	108	106
Scout	3.08	2.83	74	75
Wyalkatchem	4.64	3.71	112	99

Influence of subsoil (10 - 60 cm) pH on relative yield

- Toxic levels of Al released at pH <4.5 (CaCl_2)
- Westonia recognised as the variety with the highest level of Al tolerance
- Al tolerance is likely to be most important in wet years when roots reach the Al toxic subsoil
- 2011 looked at in isolation



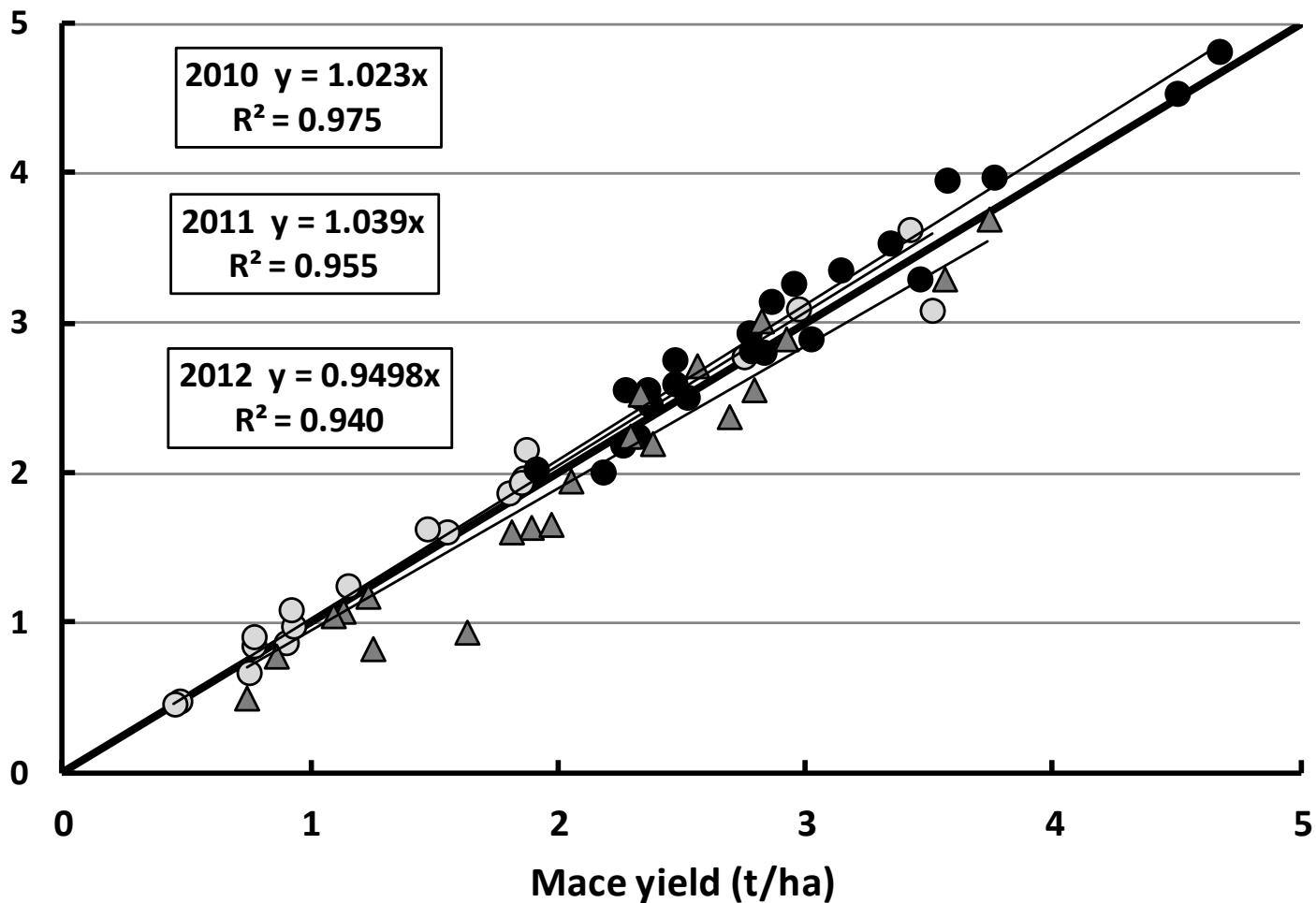


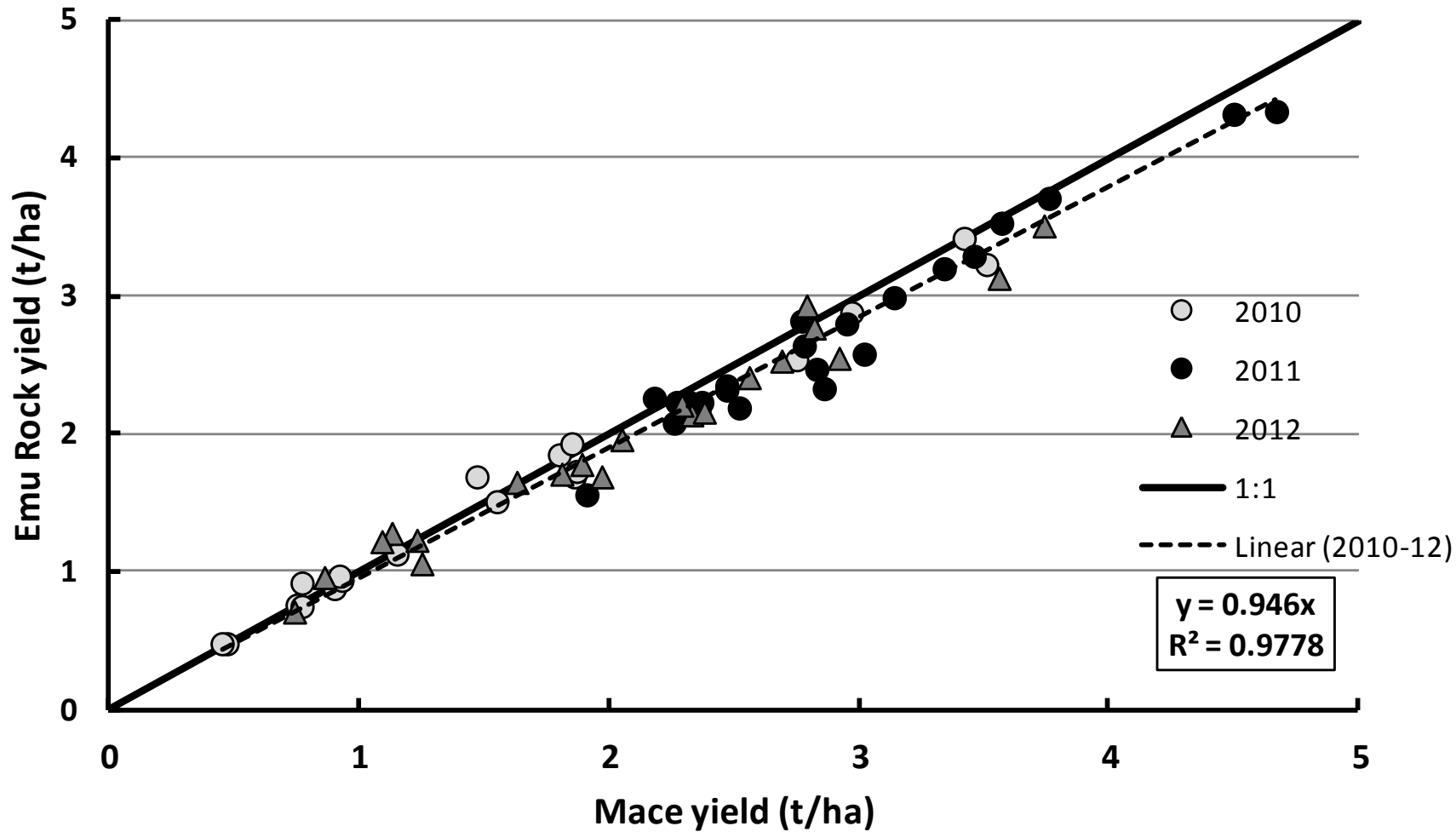


Performance of earlier maturing varieties compared to Mace

- **Cobra** (AH) best at low pH, yield >2.5t/ha and YLS infection
- **Corack** (Wyalkatchem derivative, APW) very high yielding in 2010 and 2011, good YLS res
- **Emu Rock**: earliest maturing and AH

Corack yield (t/ha)

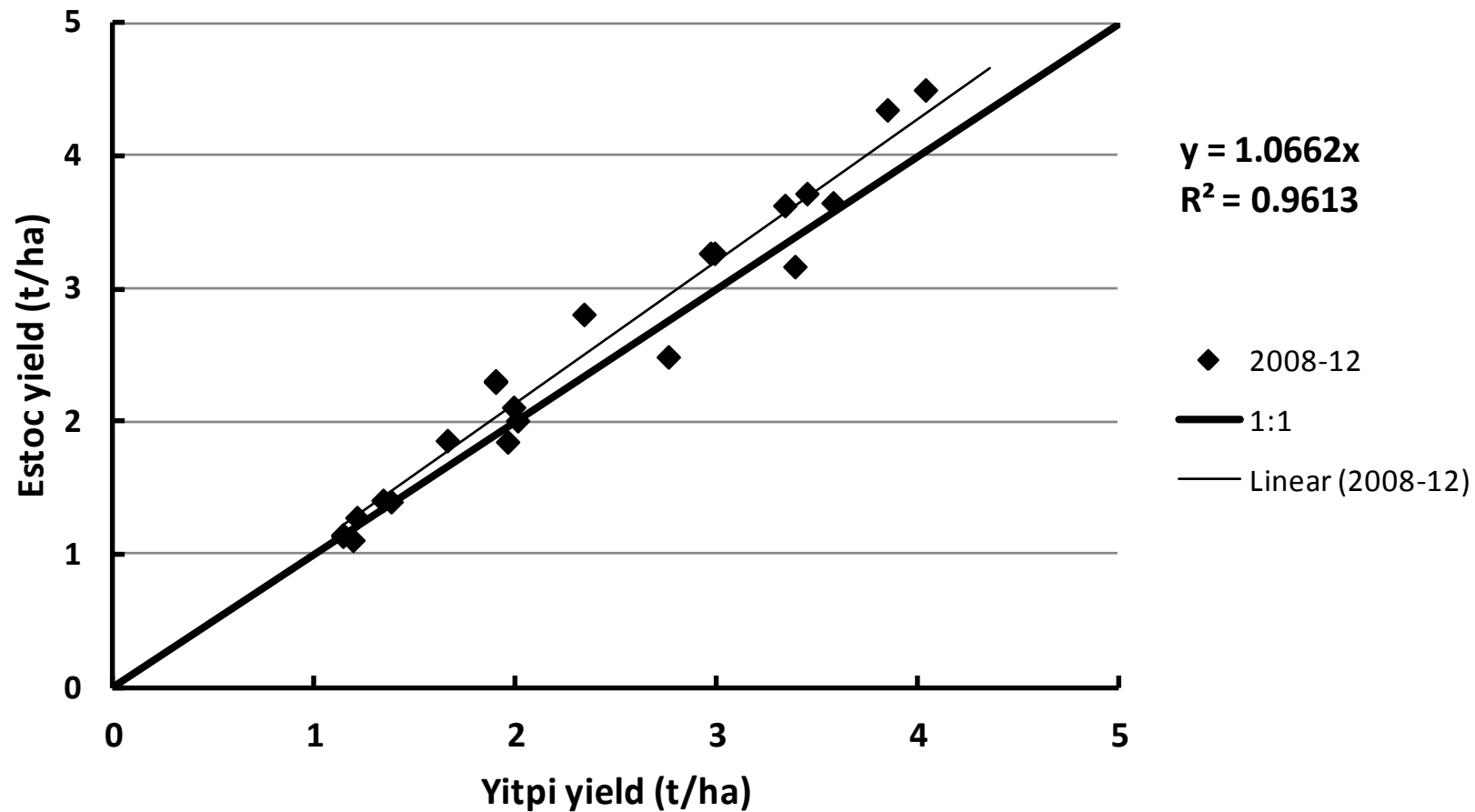




Performance of later maturing varieties

- **Magenta:** for northern areas, sown early May, especially where YLS likely
- **Yitpi** (Spear type) still popular in southern areas but very susceptible to YLS, stem rust and lower yield than Mace
- **Scout & Envoy** (Spear types) earlier than Yitpi, good for FN, very susceptible to YLS
- **Estoc** (Spear type) = Yitpi maturity, stem rust resistant, good for FN, very susceptible to YLS





Key messages

- Mace has shown high yield stability over 5 seasons and its widespread adoption is justified
- Mace's limitations are related to YLS, early maturity and very low subsoil pH
- Selection of varieties to complement Mace should be based on these limitations

Key messages (continued)

- **Magenta** best suited to early May sowing where there is a high probability of YLS,
- **Emu Rock** in short growing season areas that are likely to yield no more than 2t/ha,
- **Corack** where protein may be restricted to APW grade, YLS is a risk but there is a low probability of frost



Key messages (continued)

- **Cobra** where subsoil pH is below 5 (CaCl_2), YLS is a risk, and yields are likely to exceed 2.5t/ha,
- **Estoc** as a stem rust resistant alternative in the traditional Yitpi growing areas for early May sowing
- **Scout or Envoy** in the southern areas where a reasonable level of sprouting tolerance is required.



Questions?

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Building the Systems Profitability”

