

Chinese corn production: Status and perspectives

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**3. How Chinese corn production looks like –
Case studies from Heilongjiang and Henan**

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Introduction

- a) **Corn is one of the very important grains**
⇒ **China has become a net importer of corn.**
- b) **Strong increase in animal protein demand**
⇒ **Demand for corn is going up.**
- c) **No land use expansion – additional output will have to come from yield increases.**
- d) **Tasks:**
 - ⇒ **Explore status quo of corn production**
 - ⇒ **Compare with US corn production**



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Corn production and acreage



China's Corn Belt

Region 1, North-East corn region (Upper Corn Belt)

Region 2, Huang river-Huai river-Hai river corn region

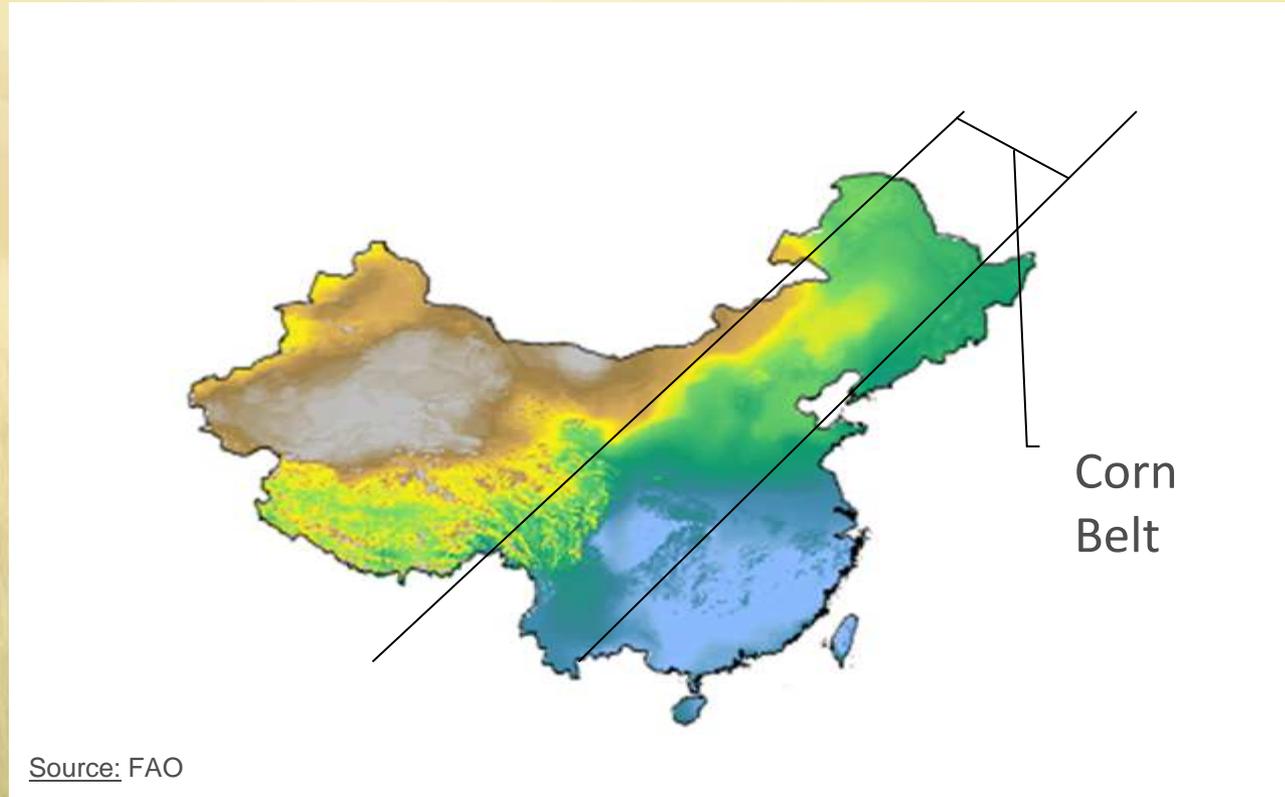
Region 3. Southwest mountainous corn region





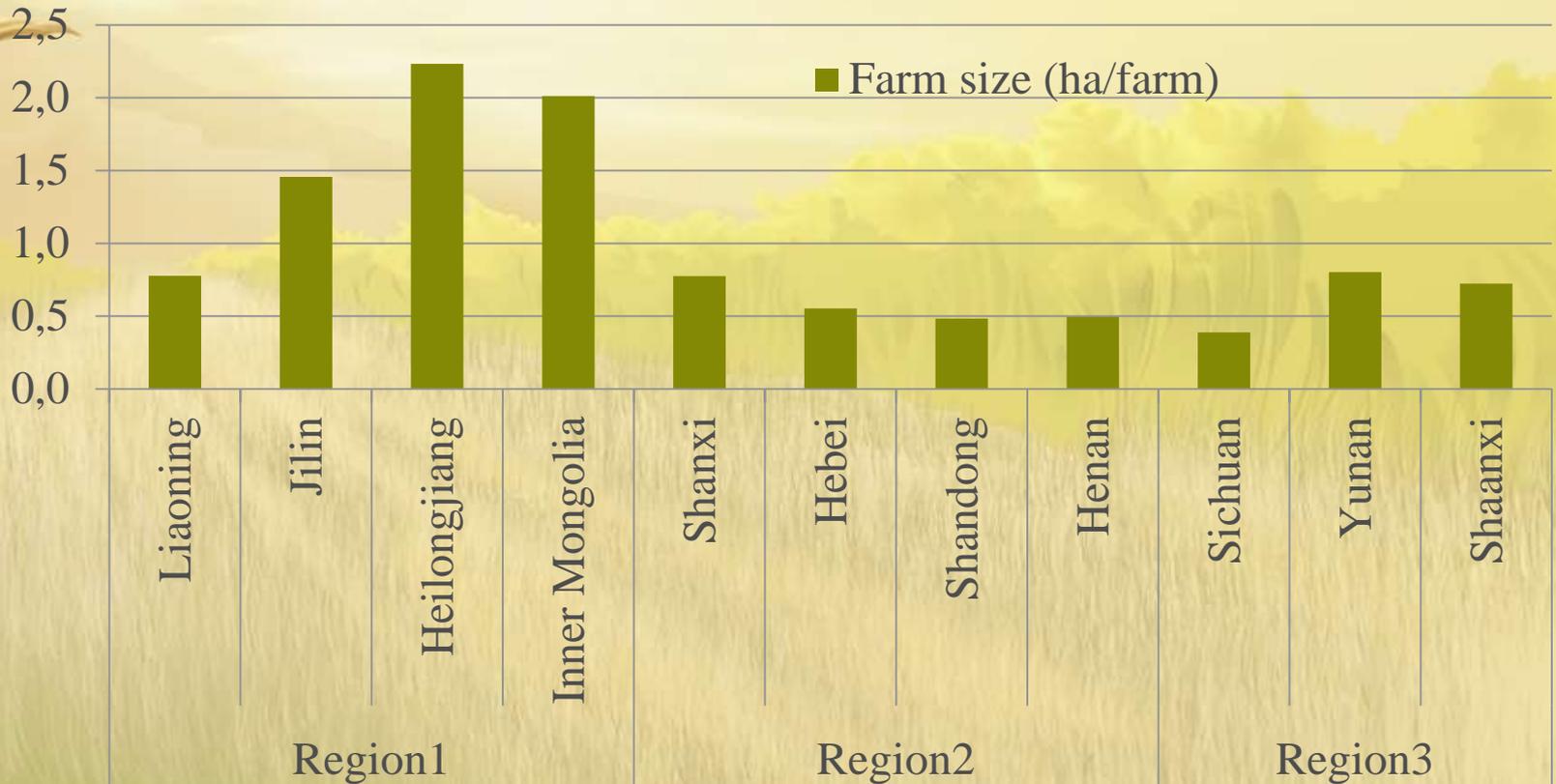
Corn maturity groups in China

Days	
0	
24	
49	
73	
98	
122	
146	
171	
195	
220	
244	
268	
293	
317	
342	



Chinese corn production ranges from ultra-short hybrids to tropical ones with a high number of growth days.

Farm sizes in Chinese corn belt



- Chinese corn production is dominated by very small farms
- Only in Heilongjiang (North-China) some larger and very large farms (up to 3000 ha) can be found.

Location of agri benchmark farms



Corn prices: China vs. world market (USD/t)



- **Chinese corn prices well above world market – the gap seems to increase**
- **The gap is well above transport and logistic cost**

Sources: World Bank Commodity Price Data; China Statistics Yearbook

Corn import and export





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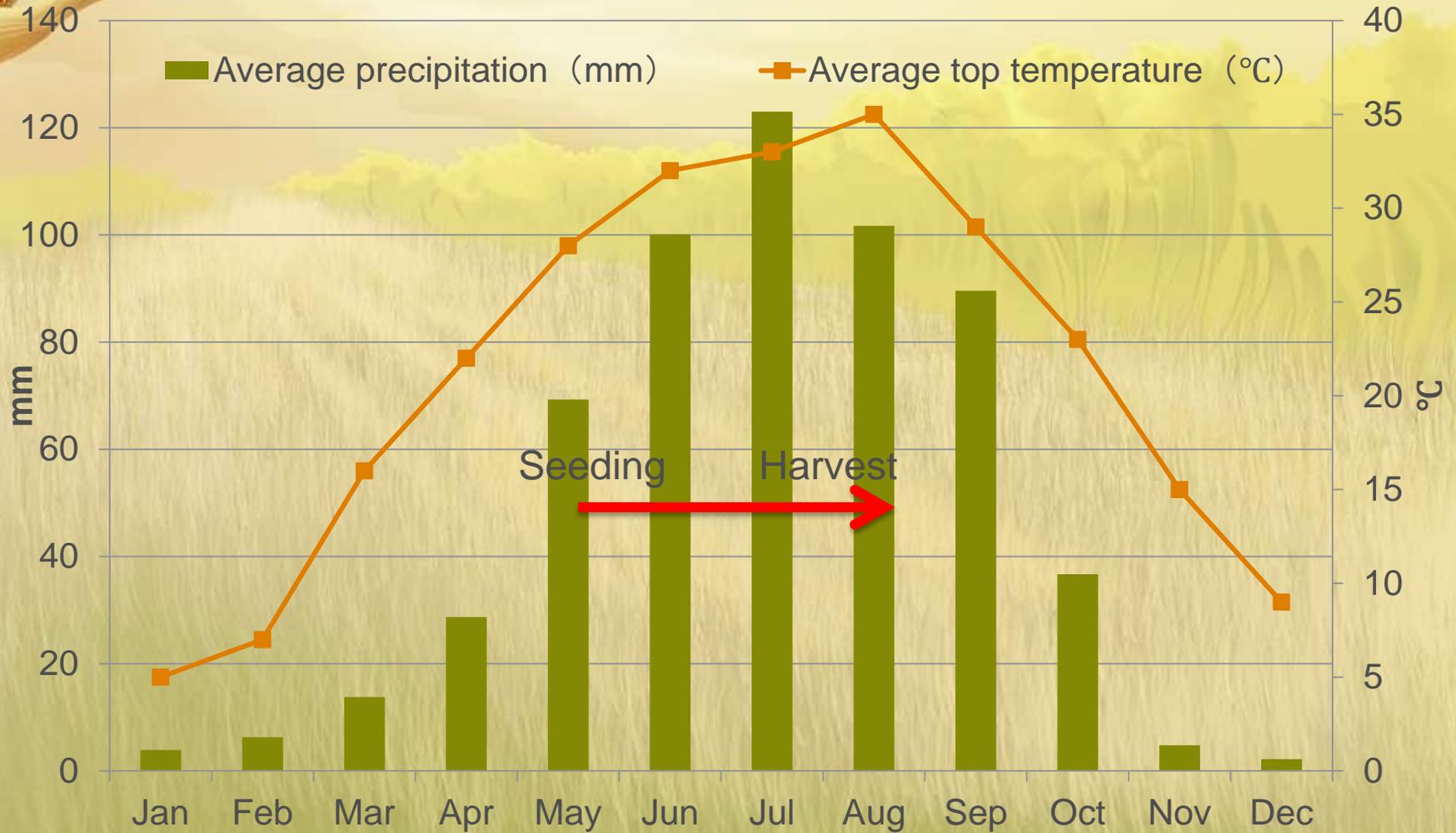
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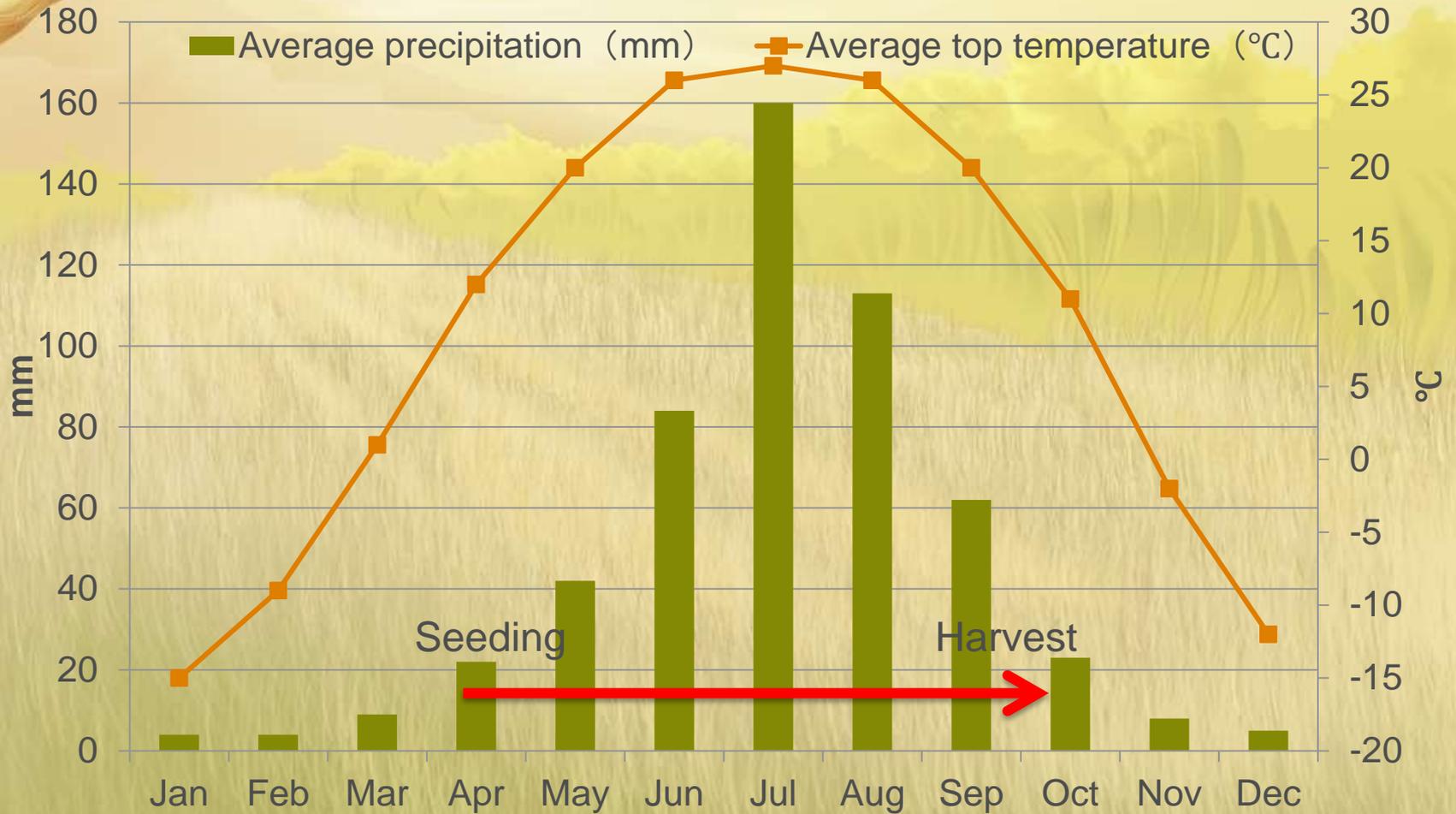


Climate in Henan

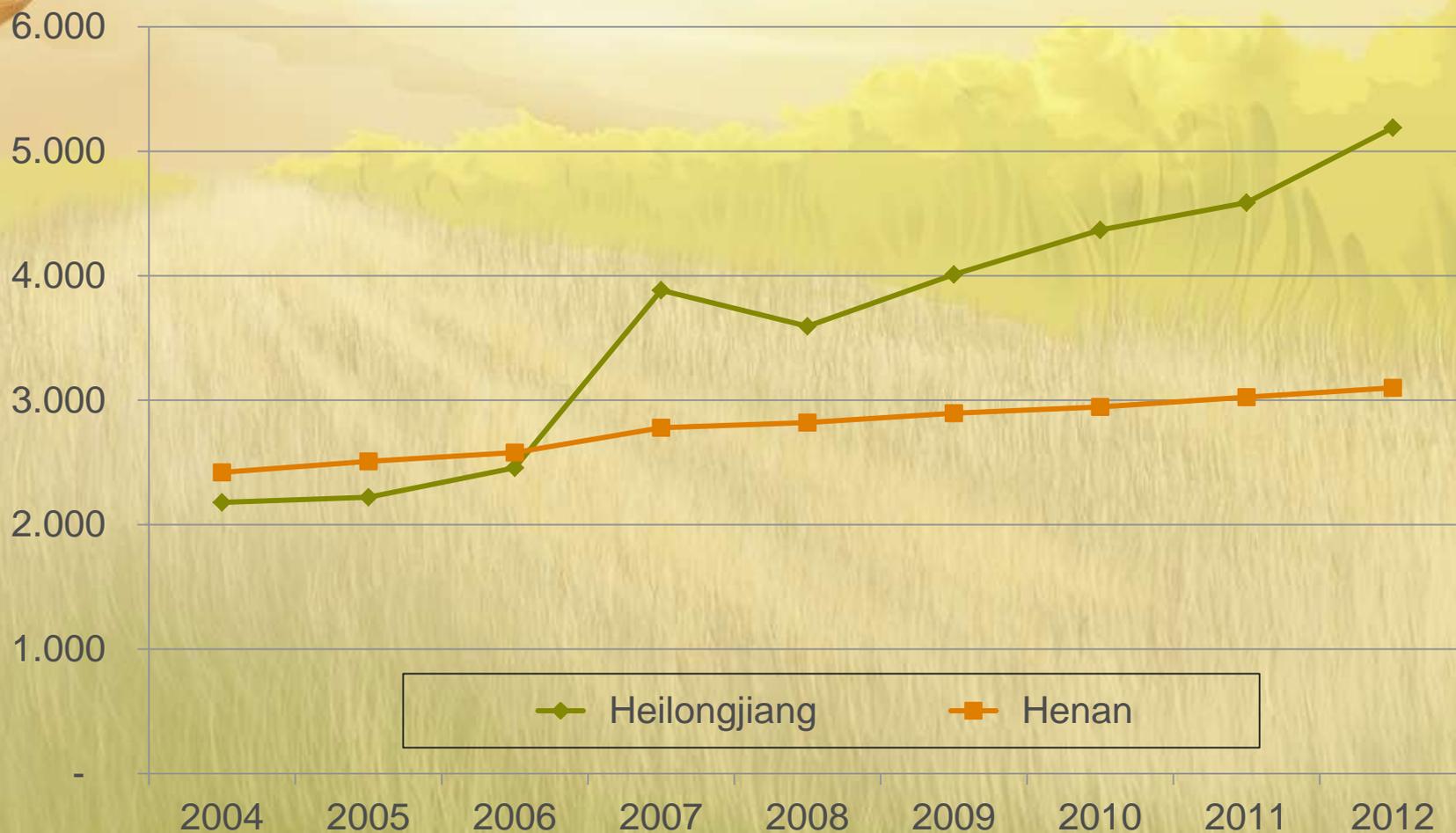




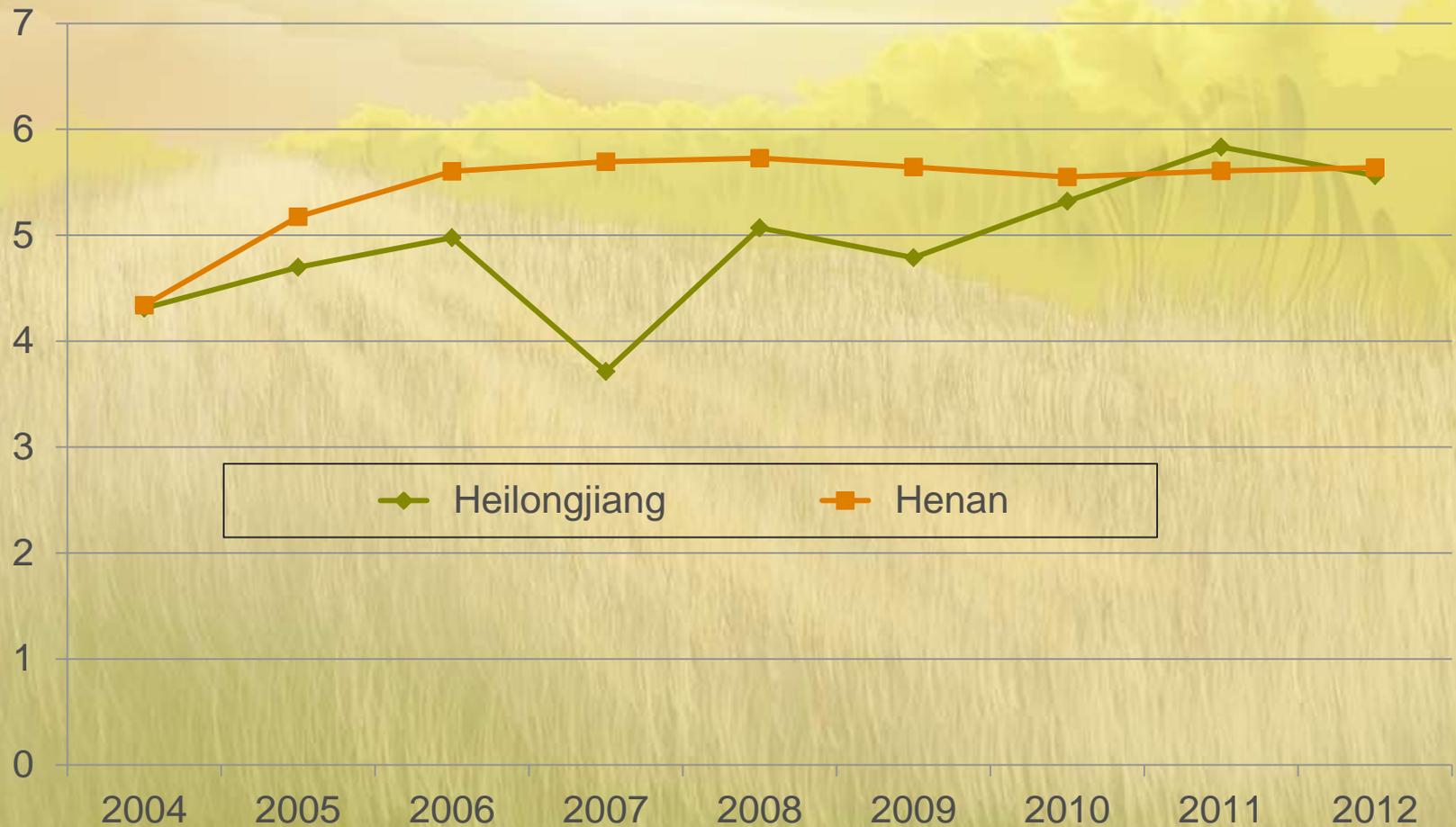
Climate in Heilongjiang



Heilongjiang and Henan: Strong growth in corn acreage (1,000 ha)



Moderate and almost stagnant corn yields in Heilongjiang & Henan (t/ha)





Key features of corn production systems in *agri benchmark* case studies

Farms	N input (Kg/ha)	N price (USD/kg)	Operations by hand	Labour input (h/ha)	Contract service	Contract service price (USD/ha)	Typical rotation
CN1HLJ	202	0.82	Fertilization Spraying Threshing	259	Harvesting Transport Plowing	358	corn
CN1HP	195	0.75	Fertilization Spraying Weeding Harvesting Drying	360	Seeding Harvesting	181	wheat corn
CN350HLJ	207	1.21		30		0	soybean corn
US700IA	184	0.99		5.6		0	corn wheat soybean

Germination in 2014



Harrow (other tillage for three times in corn field)





Machinery and storage

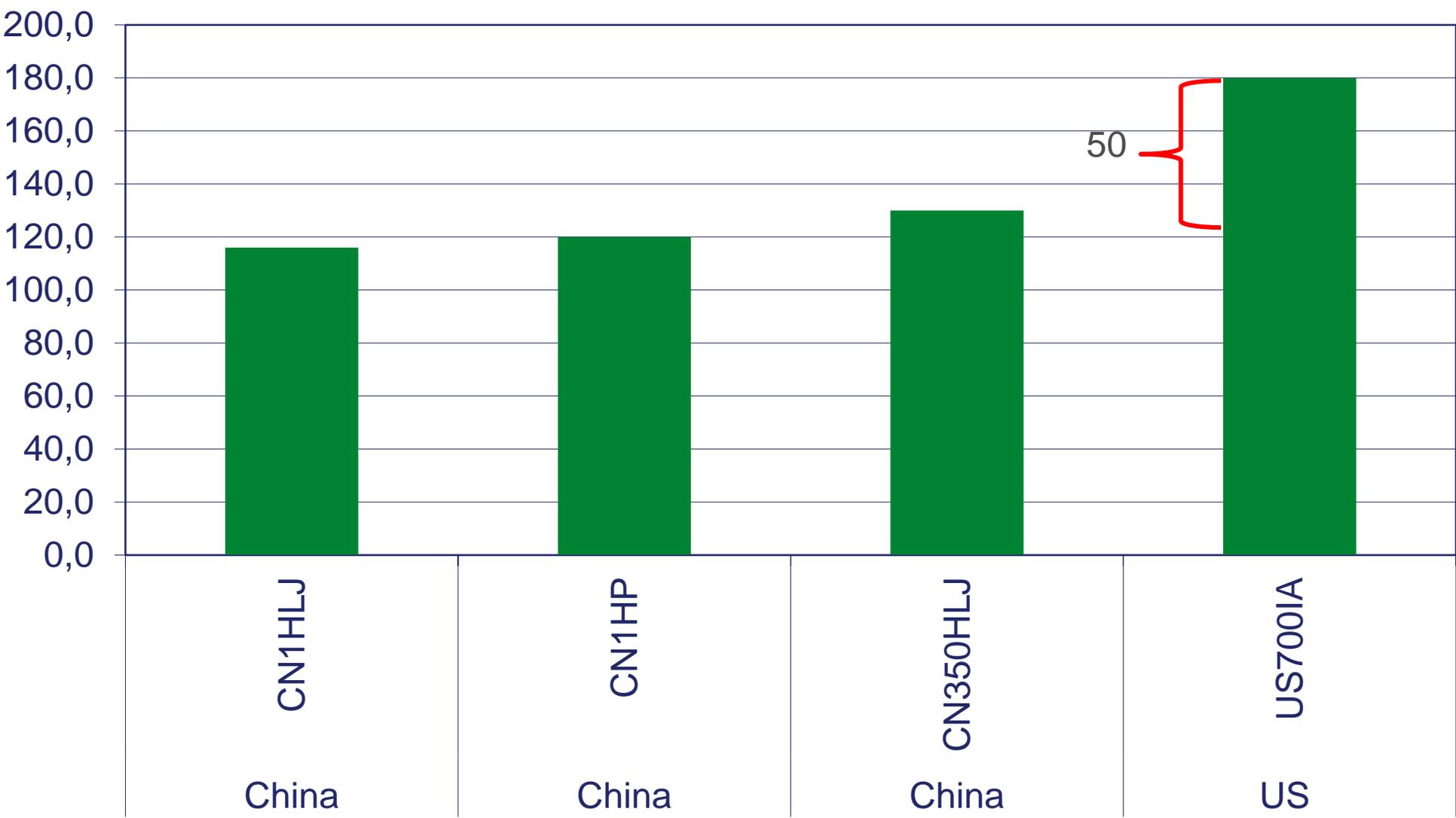


Henan Corn no tillage after wheat

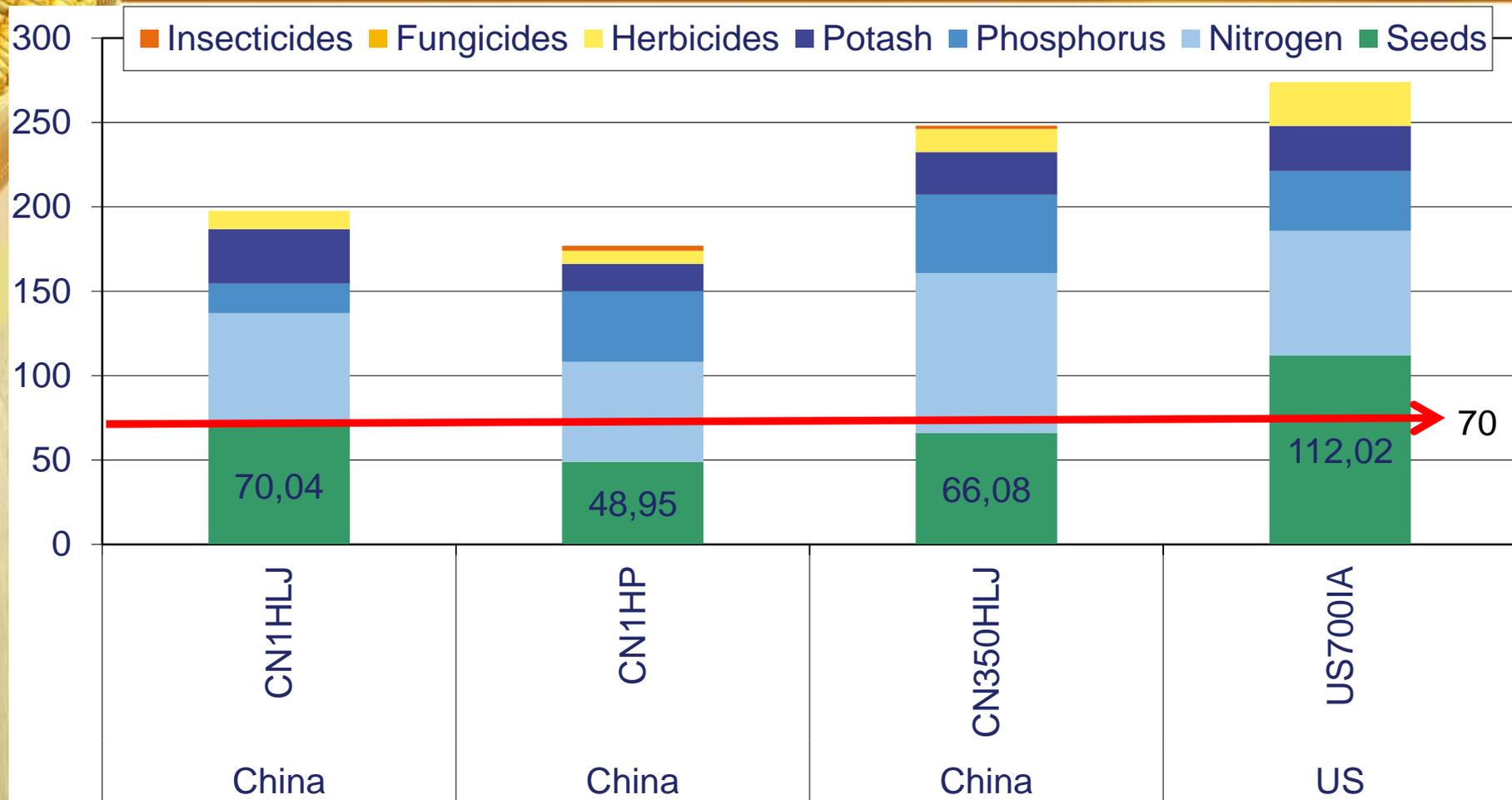




Corn yields (2013, bu/ac)

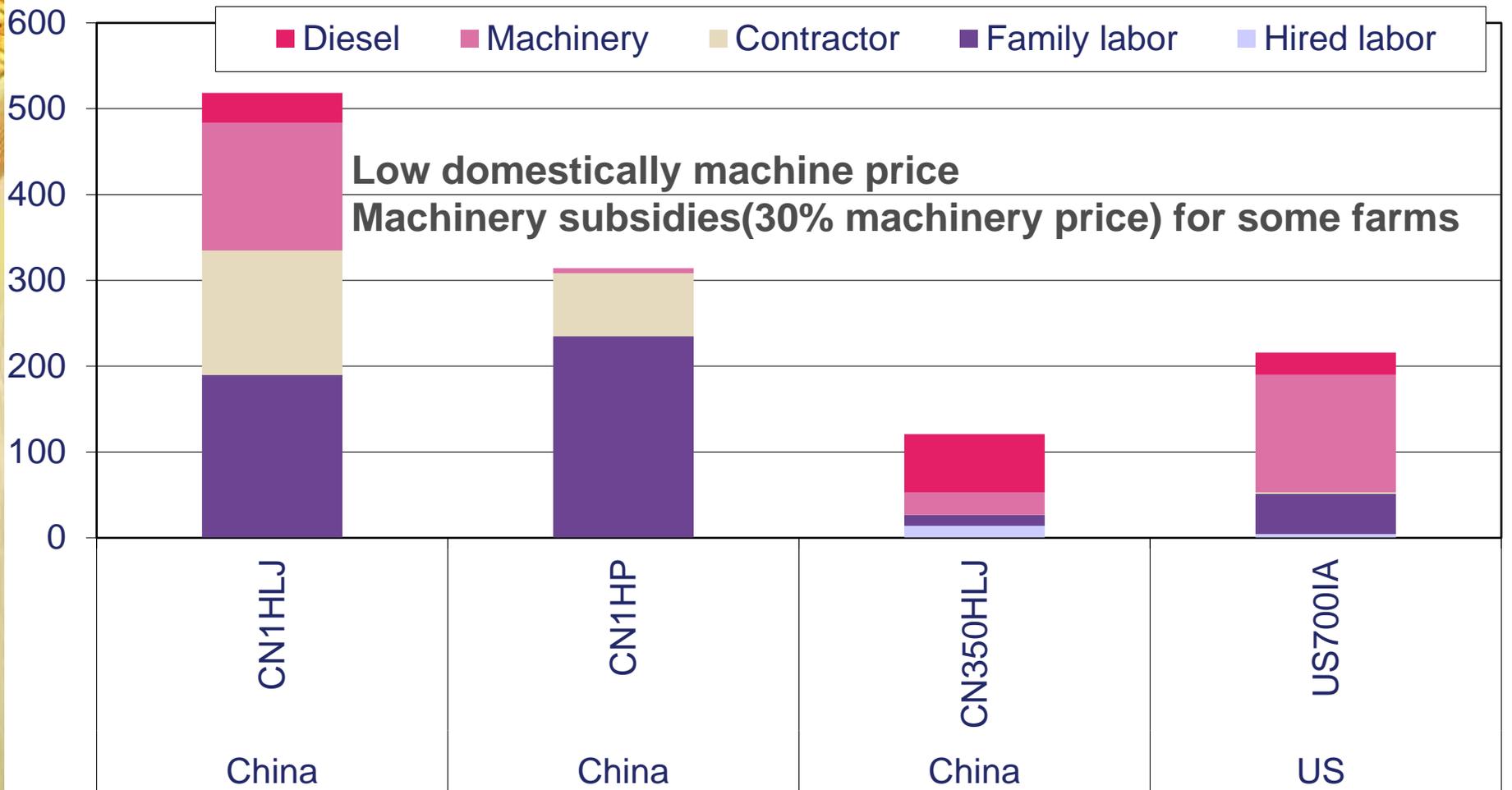


Crop establishment cost (USD/ac)

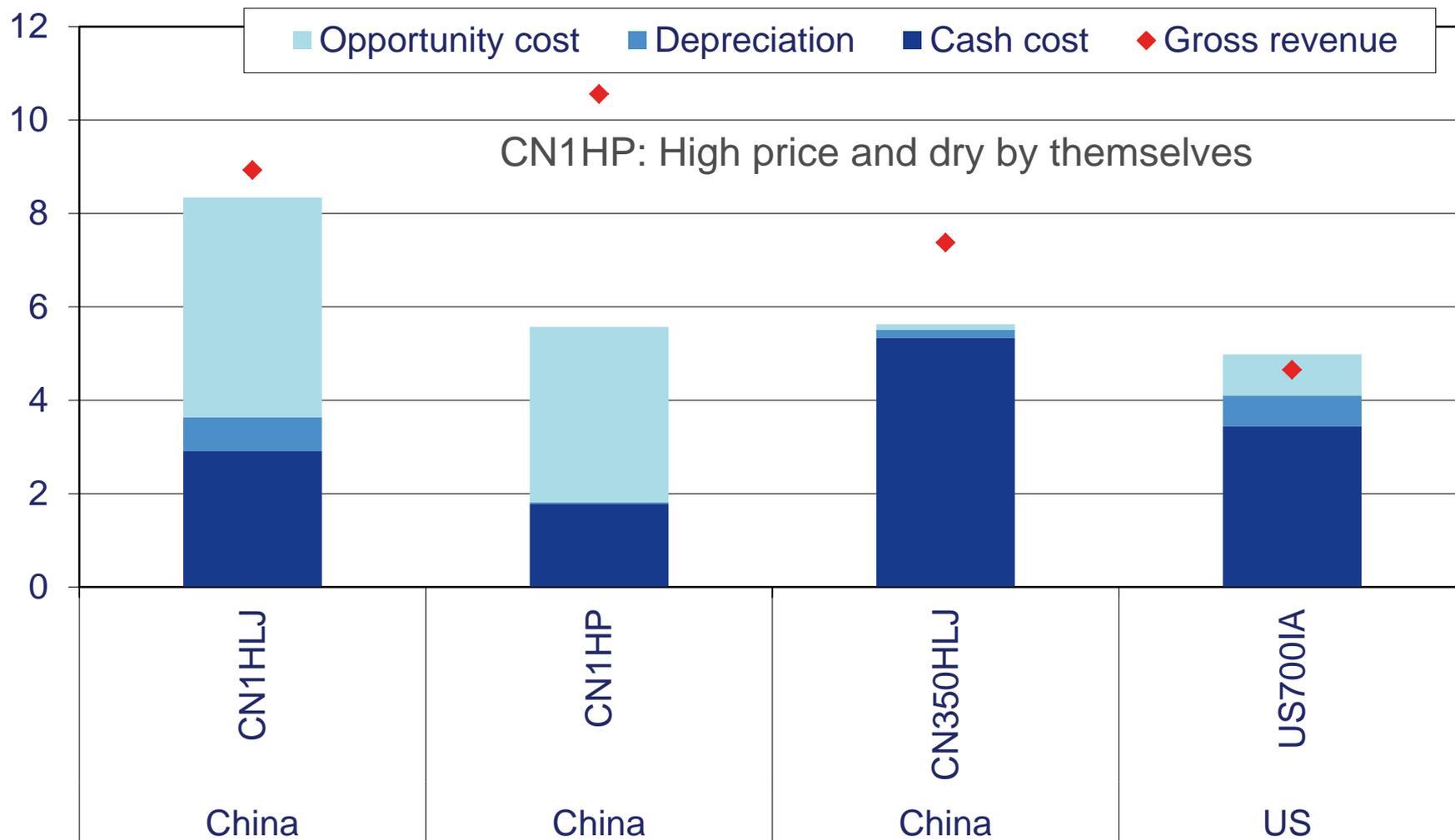


the seed cost leads to the huge difference of crop establishment cost between China and US.

Operating cost (USD/ac)



Total cost and gross revenue (USD/bu)





Conclusion

1. **Corn is a rather profitable crop for Chinese growers.**
2. **Many operations still done manually.**
But: contractor services are increasingly important.
3. **Yields are relatively low, growth of yields as well.**
4. **Relative to yields, fertilization is rather high.**
5. **A lot of corn is produced as a continuous crop – in particular in Heilongjiang province (Northeast of China)**
6. **Seed cost are low – partially because of heavy subsidies (but just for domestic hybrids available).**



Thanks for your attention!

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