

Spring Field Pea or Dry Yellow Pea

- Annual cool-season grain legume (pulse) crop
- Shallow rooted, 75% of root biomass in the top 2 feet of the profile
- High protein content (21-25%), and 86-87% total digestible nutrients (TDN)
- Works well in livestock rations, no oil so can be dry milled, also an export market for human use

Production Practice Recommendations

- Variety Selection, see K-State and UNL variety performance testing results
- Seeding Rate, minimum 350,000 live seed acre⁻¹, will germinate at soil temps > 40° F
- Seeding depth: 1-3” is acceptable. Seed at least ½” into moisture, never on the dry/wet soil interface
- Inoculation – Pea and lentil inoculant strain, planting into high residual nitrate will reduce fixation
- Weed Control (you have to really dig through the herbicide labels)
 - Field pea is a weak competitor with weeds early in the season
 - Preemergence residual herbicide: Spartan, Metribuzin, Dual, Treflan, Command, Sharpen
 - Post options: Raptor, Basagran, Clethodim, Assure II

Water Use and Effect on Subsequent Crops - In a multi-year study at Colby and Tribune, on average:

- Field peas used 3.52” more water than fallow
- Available soil water at wheat planting was 2.55” greater for no-till fallow than after field peas
- Wheat yields after peas averaged 8 bu ac⁻¹ less than wheat after fallow in a W-C/S-F rotation
- Previous data at Tribune shows on average that wheat yields decline 3.7 bu ac⁻¹ for each inch reduction in available water at planting

Yield Potential

- Our yields are typically most limited by heat stress, especially at flowering time. Substantial reductions in pod set can result. Post-flowering heat and drought stress can result in reduced seeds pod⁻¹

Table 1. Spring pea grain yields at multiple locations in the central and southern High Plains, 2010-2016.

Rotation	Study	Location	Year						
			2010	2011	2012	2013	2014	2015	2016
Wheat-Corn/Sorghum-Pea			Grain Yield (bu ac ⁻¹)						
	Fallow Alternative - Haag et al.	Colby	34	8	6	14	-	-	-
		Tribune	27	0	20	-	-	-	-
		Garden City	-	0	22	-	-	-	-
		Bushland, TX	-	0	4	-	-	-	-
	Fallow Alternative - R. Aiken	Colby	35	10	8	13	29	25	56
	Field Pea Performance Test - L. Haag	Herndon	-	-	-	-	39	41	31
	<i>Average of top LSD group</i>	Colby	-	-	-	-	28	30	34
		Shallow Water	-	-	-	-	5	-	-
		Garden City	-	-	-	-	0	-	-
		Norcatar	-	-	-	-	-	47	32
		Goodland	-	-	-	-	-	55	-
		Grainfield	-	-	-	-	-	-	28
	Producer Demonstration Plot	Grainfield	-	-	-	-	-	32	-
Wheat-Pea									
	Cover/Grain Intensification - J. Holman	Garden City	33	0	-	-	-	-	-
Average of all Colby datapoints			1420 lb ac ⁻¹ 23.7 bu ac ⁻¹						

Pea and Lentil Growth Stages

- **1st node/leaf stage:**
 - Depends on soil temps usually 14 days
- **2nd node/leaf stage and after: every 4 to 5 days**
- **Important for frost, herbicide application, rolling, N fixation, etc.**

Key Growth Stages

- Each leaf stage can be identified as a node stage as well
 - Ex. 1st leaf stage = 1st vegetative node stage

