

## Drought Options Calculator for Estimating Crop Yield

A calculation procedure to assist you to estimate your crop yield is available on Alberta Agriculture's "Ropin the Web" site > [\(1\)](#).

In estimating the yield of a crop, the producer would be counting the total number of viable kernels in a known area (foot<sup>2</sup>). These are then weighed, or a standard 1,000 kernel weight can be used. This can be extrapolated to an acreage level to give an estimate of potential crop yield.

### Estimating Crop Yield

Yield (in kg/acre\*) can be estimated using the following formula:

$$\text{Yield} = \text{Heads/ft}^2 \times \text{seeds/head} \times \text{'1,000 kernel weight'} \times 0.04356$$

If you have questions or require further assistance on this topic, please call the AgInfo-Center at 1-866-882-7677

Using an HRS wheat example with estimates of 26 heads/ft<sup>2</sup>, 24 seeds/head and the '1,000 kernel weight of 35 grams (from the table), the yield works out to:

$$= 26 \text{ heads/ft}^2 \times 24 \text{ seeds/head} \times 35 \times 0.04356$$

$$= 951.4 \text{ kg/acre}$$

Given wheat at 27.215 kg/bu, the estimated yield would be about 35 bu./ac.

The logic for the calculation is provided below:

$$\text{Kernels / acre} = \text{Heads/ft}^2 \times \text{Seeds/head} \times 43,560 \text{ ft}^2/\text{ac}$$

$$\downarrow$$

$$\text{Grams per acre} = \frac{\text{Kernels per acre} \times \text{kernel weight}}{1,000}$$

$$\downarrow$$

$$\text{Kg/ac} = \frac{\text{grams per acre}}{1,000}$$

\*-AFSC uses kg/ac for insurance purposes

Cereals	Desired plant population		1,000 kernel wt. (grams)	seeds / lb. (average)
	per square meter	per sq. foot (range)		
Wheat				
- Hard Red	250	24 (16-30)	31-38	12,000-14,600
- CPS	250	24 (18-30)	39-50	10,800-12,000
- Durum	210	20 (16-24)	41-45	10,000-11,000
- Extra Strong	210	22 (20-24)	40-44	10,000-11,000
- Soft White	210	20 (18-25)	34-36	12,600-14,200
Barley 2 row	210	22 (16-30)	40-50	9,000-11,000
Barley 6 row	210	22 (16-30)	30-45	10,000-15,000
Oats	250	24 (16-30)	30-45	10,000-15,000
Fall Rye	250	24 (16-25)	30-35	13,000-15,000
Triticale				
- spring	310	30 (25-35)	42-48	9,500-10,800
- winter	250	24 (18-30)	43-46	9,900-10,600
Corn				
- sweet	5	0.5	380	1,200
- grain	6.1	0.6	380	1,200
- silage	7.6	0.7	380	1,200

Oilseeds	Desired plant population		1,000 kernel wt. (grams)	seeds / lb. (average)
	per square meter	per sq. foot (range)		
Canola				
- campestris	73 - 178	7-17	2-3	151,000-227,000
- napus	73 - 178	7-17	3-4	113,000-151,000
Flax	425	40	5-7	75,700
Special Crops	Desired plant population		1,000 kernel wt. (grams)	seeds / lb. (average)
	per square meter	per sq. foot (range)		
Pea	75	7 (7-9)	125-300	1,500-3,600
Bean	25	2.4 (2.2-2.6)	200-350	1,300-2,300
Fababean	45	4.3 (4.0-4.3)	350-425	1,000-1,300
Lentil	105 - 147	12 (10-14)	30-80	5,600-15,000
Soybean	50	5	100-200	2,300-4,500
Buckwheat	150	14	30	15,100
Safflower	50	4.8	35	12,600
Sunflower				
- confection	4.5	0.4	175	2,600
- oil	6	0.6	126	3,600