Combine Seed Loss Guide

A method for determining seed loss from your combine based on weight, volume, or seed count with choppers and spreaders disengaged.

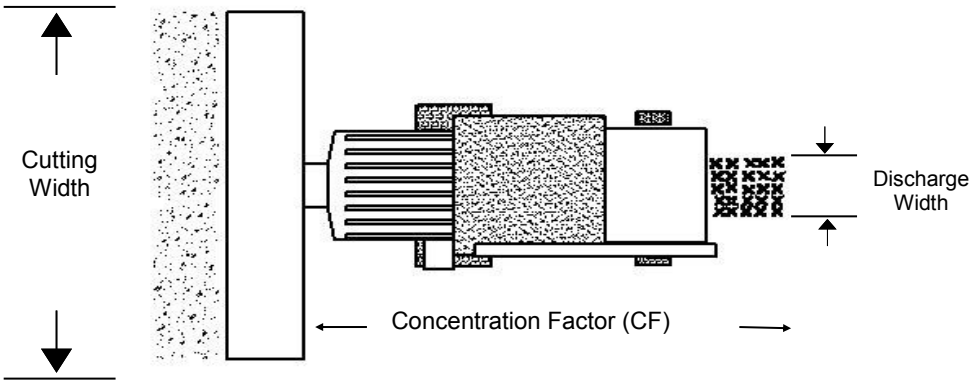

Table 1

STEP 1
Find your CF—in this table

Common Concentration Factors

Cutting Width (ft)	Discharge Width (ft) 3	4	5	6	CF (X)
	12	16	20	24	4
	15	20	25	30	5
	18	24	30	36	6
	21	28	35	42	7
	24	32	40	48	8
	27	36	45	54	9
	30	40	50	60	10

STEP 2
Collect a Sample from discharge of known area

Be Careful
Be Safe

Continue steps on next page

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STEP 3 Remove chaff from sample

Tips:

- Use round hole sieve
- Blow out (leaf blower and 5 gallon pail)

STEP 4 Determine weight (g), volume (ml), or seed count measurement.

STEP 5 Calculate loss in pan per sq ft of pan first. Collection pan can be any size; however, pan width equal to width of sieves is recommend (divide results by ft^2 of collection pan).

STEP 6 Select **Table 2, 3, 4,** or **5** to find loss on a per acre basis

Table 2 **Weighing Method - All Crops**

(0.010413 grams/ft ² over each ft ² in an acre = 1 lb/ac)

	Concentration Factor (CF)								Loss
CF	1	4	5	6	7	8	9	10	lb/ac
Loss Collected Behind Combine in 1 square foot (Grams/ft²)	0.1	0.4	0.5	0.6	0.7	0.8	0.9	1.0	**10**
	0.3	1.0	1.3	1.6	1.8	2.1	2.3	2.6	**25**
	0.5	2.1	2.6	3.1	3.6	4.2	4.7	5.2	**50**
	0.6	2.5	3.1	3.7	4.4	5.0	5.6	6.2	**60**
	0.8	3.1	3.9	4.7	5.5	6.2	7.0	7.8	**75**
	1.0	4.2	5.2	6.2	7.3	8.3	9.4	10.4	**100**
	1.3	5.2	6.5	7.8	9.1	10.4	11.7	13.0	**125**
	1.6	6.2	7.8	9.4	10.9	12.5	14.1	15.6	**150**
	1.8	7.3	9.1	10.9	12.8	14.6	16.4	18.2	**175**
	2.1	8.3	10.4	12.5	14.6	16.7	18.7	20.8	**200**

To find the value in this chart when using collection pans greater than 1 sq ft, divide the volume or weight measured by the square footage of the pan first.

Table 3 **Volume Measurement Method - All Crops**

(0.8348875 ml/ft² over each ft² in an acre = 1 bu/ac)

	Concentration Factor (CF)								Loss
CF	1	4	5	6	7	8	9	10	bu/ac
Loss Collected Behind Combine in 1 ft² in Millilitres (ml/ft²)	0.2	0.8	1.0	1.3	1.5	1.7	1.9	2.1	**0.25**
	0.4	1.7	2.1	2.5	2.9	3.3	3.8	4.2	**0.5**
	0.6	2.5	3.1	3.8	4.4	5.0	5.6	6.3	**0.75**
	0.8	3.3	4.2	5.0	5.8	6.7	7.5	8.3	**1.0**
	1.0	4.2	5.2	6.3	7.3	8.3	9.4	10.4	**1.25**
	1.3	5.0	6.3	7.5	8.8	10.0	11.3	12.5	**1.5**
	1.5	5.8	7.3	8.8	10.2	11.7	13.1	14.6	**1.75**
	1.7	6.7	8.3	10.0	11.7	13.4	15.0	16.7	**2.0**
	2.1	8.3	10.4	12.5	14.6	16.7	18.8	20.9	**2.5**
	2.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	**3.0**
	2.9	11.7	14.6	17.5	20.5	23.4	26.3	29.2	**3.5**
	3.3	13.4	16.7	20.0	23.4	26.7	30.1	33.4	**4.0**
	3.8	15.0	18.8	22.5	26.3	30.1	33.8	37.6	**4.5**
	4.2	16.7	20.9	25.0	29.2	33.4	37.6	41.7	**5.0**

To find the value in this chart when using collection pans greater than 1 sq ft, divide the volume or weight measured by the square footage of the pan first.

Table 4 Seed Count Method - Wheat

(20 kernel/ft² over each ft² in an acre = 1 bu/ac)

Concentration Factor (CF)									Loss
CF	1	4	5	6	7	8	9	10	bu/ac
Loss Collected Behind Combine in 1 ft² in # of Kernels (#/ft²)	5	20	25	30	35	40	45	50	**0.25**
	10	40	50	60	70	80	90	100	**0.5**
	15	60	75	90	105	120	135	150	**0.75**
	20	80	100	120	140	160	180	200	**1.0**
	25	100	125	150	175	200	225	250	**1.25**
	30	120	150	180	210	240	270	300	**1.5**
	35	140	175	210	245	280	315	350	**1.75**
	40	160	200	240	280	320	360	400	**2.0**
	50	200	250	300	350	400	450	500	**2.5**
	60	240	300	360	420	480	540	600	**3.0**
	70	280	350	420	490	560	630	700	**3.5**
	80	320	400	480	560	640	720	800	**4.0**
	90	360	450	540	630	720	810	900	**4.5**
	100	400	500	600	700	800	900	1000	**5.0**

To find the value in this chart when using collection pans greater than 1 sq ft, divide the seed count by the square footage of the pan first.

Table 5 Seed Count Method - Barley

(14 kernel/ft² over each ft² in an acre =1 bu/ac)

Concentration Factor (CF)									Loss
CF	1	4	5	6	7	8	9	10	bu/ac
Loss Collected Behind Combine in 1 ft² in # of Kernels (#/ft²)	4	14	18	21	25	28	32	35	**0.25**
	7	28	35	42	49	56	63	70	**0.5**
	11	42	53	63	74	84	95	105	**0.75**
	14	56	70	84	98	112	126	140	**1.0**
	18	70	88	105	123	140	158	175	**1.25**
	21	84	105	126	147	168	189	210	**1.5**
	25	98	123	147	172	196	221	245	**1.75**
	28	112	140	168	196	224	252	280	**2.0**
	35	140	175	210	245	280	315	350	**2.5**
	42	168	210	252	294	336	378	420	**3.0**
	49	196	245	294	343	392	441	490	**3.5**
	56	224	280	336	392	448	504	560	**4.0**
	63	252	315	378	441	504	567	630	**4.5**
	70	280	350	420	490	560	630	700	**5.0**

To find the value in this chart when using collection pans greater than 1 sq ft, divide the seed count by the square footage of the pan first.

Table 6 Number of seeds per square foot to equal 1 bu/acre loss if distributed evenly behind full combine cut width

Crop	Seeds/sq ft to equal1 bu/acre loss	Crop	Seeds/sq ft to equal1 bu/acre loss
Barley	14	Sorghum	20
Corn	2	Soybean	4
Durum	16	Sunflower	3
Oat	10	Wheat	20
Pea	3		

Seed count method is not recommended for canola or flax due to small seed size

Function	Problem	**Adjustment** (make only one at a time)
Under-Threshing	straw - seed left in heads or pods	increase threshing speed, decrease concave clearance, add concave blanks, slow down
	cleaner - unthreshed heads	increase threshing speed, decrease concave clearance, add concave blanks, slow down
	returns - unthreshed heads	increase threshing speed, decrease concave clearance, add concave blanks, slow down
	graintank - part heads, no small kernels	increase threshing speed, decrease concave clearance, add concave blanks, slow down
Over-Threshing	straw - broken up excessively	drive faster, decrease threshing speed, increase concave clearance
	cleaner - high chaff load, cracked grain	drive faster, decrease threshing speed, increase concave clearance
	grain tank - cracked grain	decrease threshing speed, increase concave clearance
Separating	straw - grain loss	increase threshing speed, decrease concave clearance, use wider spaced wire concaves, reduce vane angle, slow down
	straw - excessive chaff	decrease threshing speed, increase concave clearance, use narrow wire space concaves, increase vane angle
Cleaning	What fan speed?	feed combine slowly - increase fan speed until start blowing a few seeds over chaffer sieve
	chaff - seed (threshed)	increase chaffer sieve opening, even out chaff/grain loading, decrease chaffer opening, decrease cleaning sieve opening
	grain - light trash	increase fan speed, decrease chaffer opening, decrease cleaning sieve opening
	return - clean grain	open sieve, open chaffer, decrease fan speed

Canola Council of Canada
400—167 Lombard Avenue
Winnipeg, MB R3B 0T6
Phone: (204) 982-2100 Toll Free: (866) 834-4378
Website: www.canolacouncil.org

Prairie Agricultural Machinery Institute
2215—8th Avenue
PO Box 1150
Humboldt, SK S0K 2A0
Phone: (306) 682-5033 Fax: (306) 682-5080
Website: www.pami.ca

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