

Seed Rate – Setting Chart

for

AMAZONE-Seed Drills D8 SUPER

AMAZONE-Seed Drills D8 SPECIAL

AMAZONE-Pack Top Seed Drills AD 2

AMAZONE-Tyre Packer Pack Top Seed Drills RP-AD 2

AMAZONEN-WERKE



Setting the seed rate

Short explanation with an example:

Wanted is:

1. Type of seed

Seed rate: 125 kg/ha

Row spacing: 11,9 cm, with AMAZONE Seed Drill D8 SUPER

Proceed with the following settings on your seed drill:

2. Shutter slide position

Bottom flap position

Normal- or fine seed metering wheel

Hints: e. g. stop agitator shaft

Use setting chart to determine the gearbox setting No. for the first calibration test:

3. Given row spacing

4. Given seed rate (kg/ha)

5. Type of seed drill

6. Gearbox setting No. for first calibration test

Seed		Shutter slide-position		open		Type of seed drill					
		Bottom flap position		2		D8 SUPER D8 SPECIAL	RP-AD 2 AD 2				
		Type of metering wheel		Normal-metering wheel							
		Hints									
Row spacing (cm)									Gearbox setting No.		
8	10		11	12		13	14	15			
54	43		39	36		33	31	29	20	23	
81	65		59	54		50	46	43	30	34	
108	86		79	72		66	62	58	40	45	
135	108		98	90		83	77	72	50	56	
162	130		118	108		100	92	86	60	68	
189	151		137	126		116	108	101	70	79	



The seed rates shown in the setting table (kg/ha) can only serve as reference values. Therefore conduct calibration trials to accurately determine seed rates.

Important advice which you should consider before every calibration test!

In your seed drill instruction manual there are detailed instructions regarding the procedure of the calibration test. Additionally we would like to inform you about the changes in the flowing properties of seeds and the effects on the calibration test.

Therefore please consider the following advice:

Seeds for sowing are available with various surface treatments, which could be:

- untreated seeds
- seeds treated with powdered (dry) dressings
- seeds treated with moist (liquid) dressings

All the above mentioned differently treated seeds will have different flowing properties. Additionally these flowing properties are changed by the reaction of the dressing to ambient conditions such as temperature or humidity of the air.

Points to note:

Point 1: Whenever getting a new shipment of seed **always conduct a calibration test**.

Point 2: In every case the **seedbox should be half filled** with seed.

Point 3: Before starting a calibration test the metering wheels and metering wheel housings should be filled with seed which can be achieved by turning the calibration crank until **the calibration trays are full**. Thereafter they should be emptied into the seed box again. The reason is that mechanical influences, especially the work of the agitator shaft, can also influence the flowing properties. With fine seeds the calibration trays need not be completely filled; here about 200 crank turns are sufficient.

At most dressed seed a balance situation will then have been achieved and the seed rate does not change during the sowing operation.

With dry dressed seeds the balance situation, however, can be fulfilled very often after only having sown two to three seed box fillings.

Point 4: **With dry dressed seeds the calibration test should be repeated** after two to three seed box fillings.

Point 5: On the **first operation** of the seed drill the calibration test should be repeated after approx. 1 ha. sown, as with new machines the surfaces of the metering components are changed by residue of seed dressing which then again will have an effect on the flowing properties of the seed or of the seed rate.

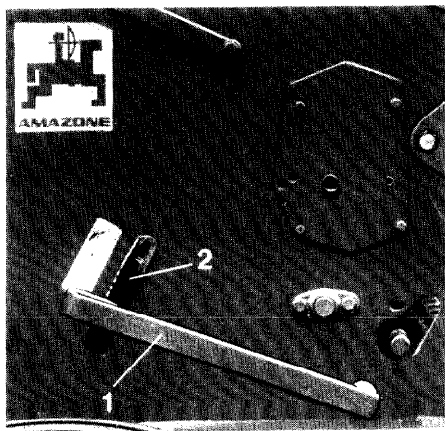


Fig. 1

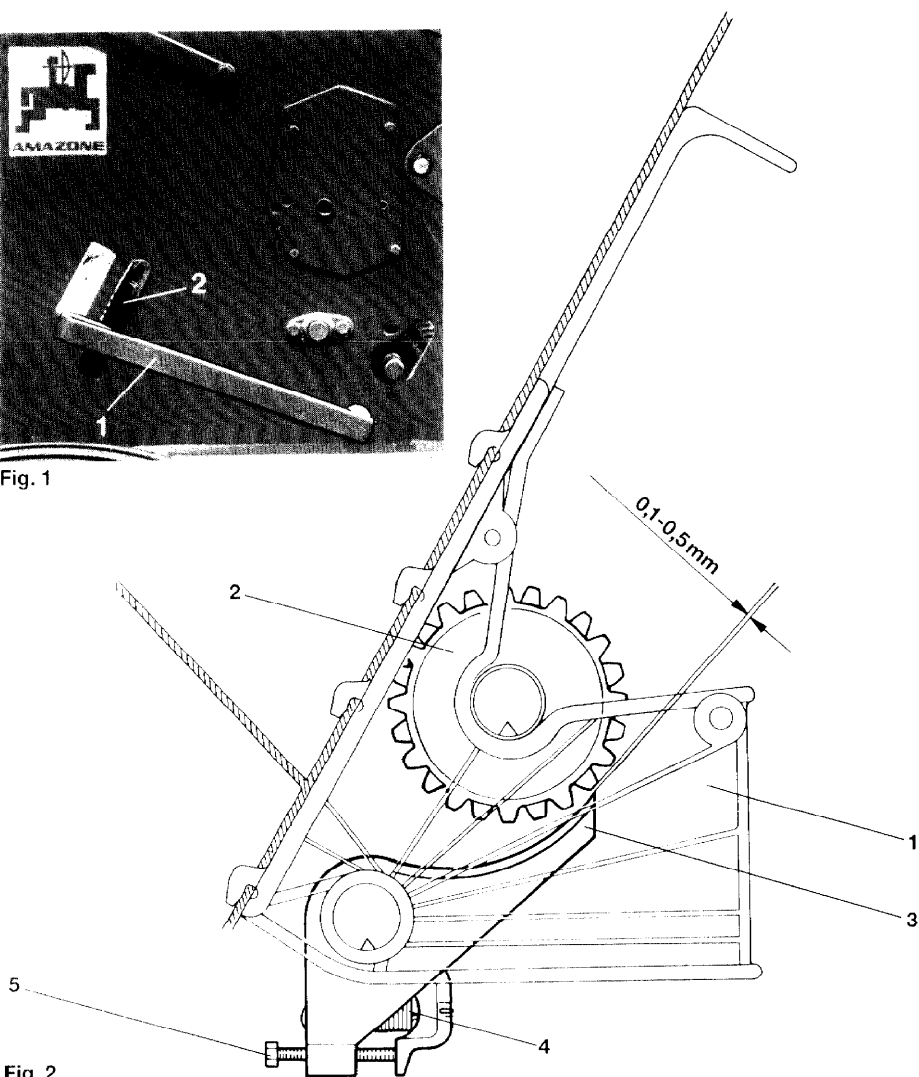


Fig. 2

Point 6: If the bottom flaps are mis-adjusted this can result in uncontrolled metering of additional seed during the sowing operation. The **basic adjustment of the bottom flaps** therefore **should be checked** every half year or before every sowing season. It should be checked on an empty seed box and empty metering wheel housings as follows:

- Bring bottom flap setting lever (Fig. 1/1) at the resting plate (Fig. 1/2) into position “1”.
- Check, whether the prescribed gap of 0.1 mm to 0.5 mm (see Fig. 2) between bottom flap (Fig. 2/3) and metering wheel (fig. 2/2) in every metering wheel housing (Fig. 2/1) is maintained. To do this the metering wheel to be checked should be turned by hand on the metering shaft.

If found necessary reset the prescribed gap at the spring tensioning screw (Fig. 2/5).

Advice regarding the seed rate setting charts:

The setting position of the bottom flap lever depends on the seed and may be taken from the setting charts. At some seeds two figures are stated. The first figure then refers to seeds with 1000 grain weight (TGW) of above 40 g, the second figure is related to a TGW of below 40 g.

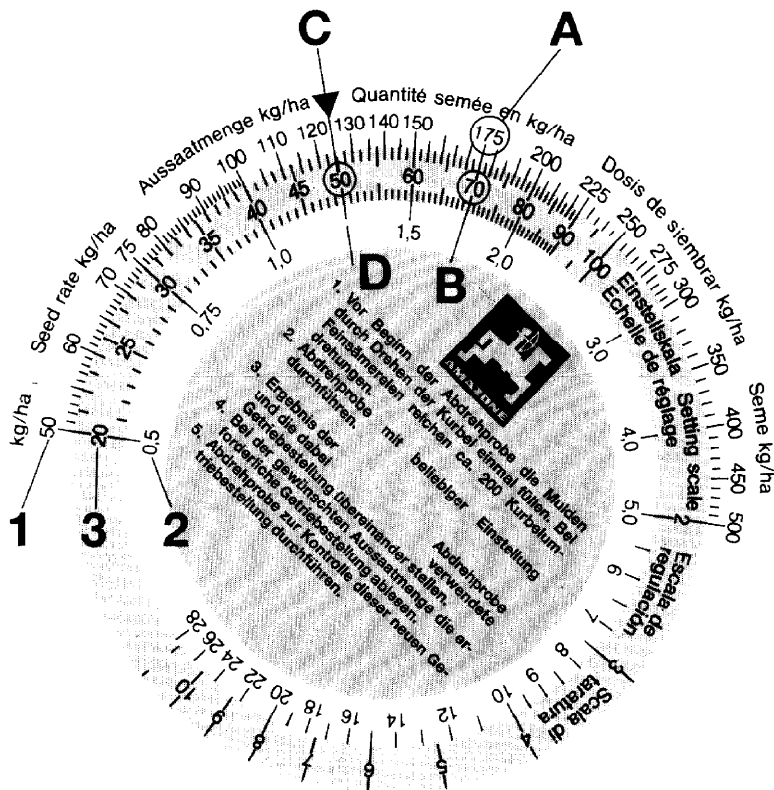


Fig. 3

1. Before beginning the calibration test fill trays by cranking. For fine seeds abt. 200 crank turns suffice.
2. Conduct calibration test with a setting of your choice.
3. Turn the disc until the weight figure determined by the calibration test is opposite to the gearbox setting figure used.
4. Now look for the desired seed rate figure. Opposite this you will find the corresponding gearbox setting figure.
5. To confirm this new gearbox setting a new calibration test is recommended.

1. Antes de comenzar con el ensayo, llenar una vez las bandejas mediante giro de manivela. Para semillas finas bastan aprox. 200 vueltas de manivela.
2. Realizar la prueba en vacío con cualquier número de posición de la transmisión.
3. Establecer la relación mediante el disco de cálculo, entre el peso recogido en la prueba y el número de posición de la transmisión.
4. Leer en el disco de cálculo, bajo la dosis deseada de siembra, el número de posición que al corresponde.
5. Realizar de nuevo la prueba con este nuevo número a fin de comprobar la exactitud de la dosis.

1. Avant d'étalonner, remplir 1 fois les augets à la manivelle (en graines fines, faire environ 200 tours).
2. Réaliser un étalonnage en choisissant un réglage arbitraire sur l'échelle de réglage du semoir.
3. Sur la règlette, faire correspondre la quantité obtenue en kg/ha avec le réglage initialement choisi.
4. Lire alors sur la règlette, le réglage à utiliser pour la quantité/ha souhaitée.
5. Réaliser un ultime étalonnage pour confirmer le réglage à utiliser. Utilisation uniquement sur semoirs avec **boîtier à double démultiplication**.

1. Prima d'effettuare la prova, riempire una volta le conche girando a manovella. Nel caso di sementi fini sono sufficienti circa 200 giri di manovella.
2. Effettuare la prova di taratura con valori a scelta.
3. Ruotare il disco facendo coincidere il peso determinato dalla prova di taratura con il valore di regolazione della scatola del cambio utilizzato per la prova stessa.
4. In corrispondenza al quantitativo di seme che si desidera distribuire. Viene indicato il valore da utilizzare per la regolazione della scatola del cambio.
5. Cereare la convalida di questa nuova regolazione ripetendo la prova di taratura.

1. Før indsåningen påbegyndes skal indsåningsbakkerne fyldes en gang med såsæd ved drejning på håndsvinget. Ved fin kornede frøsorter er det tilstrækkeligt at dreje ca. 200 omdrejninger på håndsvinget.
2. Gennemføre indsåningsprøven med vilkårlig indstilling.
3. Resultat af indsåningsprøven og den derved anvendte gearkassestilling sættes over for hinanden.
4. Den krævede gearkassestilling aflæses ud for den ønskede udsædsmængde.
5. Indsåningsprøve til kontrol af den nye gearkassestilling gennemføres.

Determination of the gearbox scale setting No. with the aid of the seed rate calculation disc rule (Fig. 3)

If the first calibration test does not bring the desired seed rate, the new gearbox scale lever setting for the correct seed rate can simply be determined by the enclosed seed rate calculation disc rule (Fig. 3). This disc rule consists of 3 scales: One outer white scale (Fig. 3/1) for all seed rates above 30 kg/ha and an inner white scale (Fig. 3/2) for all seed rates below 30 kg/ha. On the middle coloured scale (Fig. 3/3) the gearbox lever scale setting No.'s from 1 to 100 are indicated:

How to use the disc rule (example)

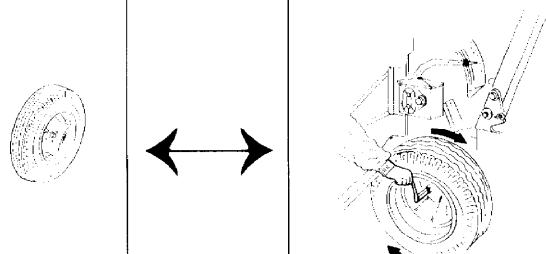
Desired seed rate: 125 kg/ha

- From the first calibration test conducted at a gearbox lever setting of “70” (any other gear box lever setting may also be chosen) a seed rate of 175 kg/ha was obtained.
- Now turn the inner disc until the obtained seed rate of “175 kg/ha” (Fig. 3/A) is in line with the related actual gearbox lever setting No. of “70” (Fig. 3/B).
- Now read off the disc rule the necessary gear box lever setting No. for the required seed rate of 125 kg/ha (Fig. 3/C). In our example the correct setting No. is “50” (Fig. 3/D).

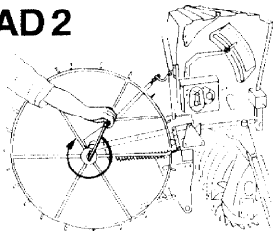
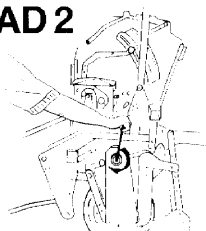
To be on the safe side you may check the new gear box lever setting No. by another calibration test.

Calibration test

The number of necessary wheel turns is related to an area of $\frac{1}{40}$ ha (250 m²) or $\frac{1}{10}$ ha (1000 m²) and depends on the tyre size and the working width.

AMAZONE-seed drills w. 2-range gearbox		D8 SUPER D8 SPECIAL	
Tyre-size	Working width		
		1/40 ha	1/10 ha
5.00-16	2,5 m	49,5	197,0
	3,0 m	41,0	164,0
6.00-16	2,5 m	46,0	185,0
	3,0 m	38,5	154,0
10.0/75-15	4,0 m	28,0	112,0
31 x 15,50-15	3,0 m	36,0	144,0
	4,0 m	27,0	108,0
	6,0 m	18,0	72,0
11.5/80-15	4,5 m	22,0	88,0
	6,0 m	16,5	66,0

Tyre-size	Conversion factor for other working widths	
	1/40 ha	1/10 ha
5.00-16	123,0	492,0
6.00-16	115,5	462,0
10.0/75-15	112,0	448,0
31 x 15,50-15	108,0	432,0
11.5/80-15	99,0	396,0

	AMAZONE Pack Top seed drill AD-2		AMAZONE Tyre Packer Pack Top seed drills RP-AD-2	
 Working width	AD 2  crank turns at star wheel diametre 1,18 m		RP-AD 2  crank turns at the intermediate drive	
	1/40 ha	1/10 ha	1/40 ha	1/10 ha
	2,5 m	27,0	108,0	59,0
3,0 m	22,5	90,0	49,0	196,0
4,0 m	17,0	67,5	37,0	147,0
4,5 m	15,0	60,0	33,0	130,5
6,0 m	—	—	24,5	98,0
Conversion factor	67,5	270,0	147,0	588,0

Calculating the number of wheel/crank turns for other working widths

For other working widths the number of wheel/crank turns can be calculated by using the mentioned conversion factor as follows:

Take the conversion factor from the above table.

Number of hand crank turns on $\frac{1}{40}$ ha (250 sqm) =	$\frac{\text{conversion factor}}{\text{(working width (m))}}$
Number of hand crank turns on $\frac{1}{10}$ ha (1000 sqm)=	$\frac{\text{conversion factor}}{\text{(working width (m))}}$

Calculating the seed rate in kg/ha

The collected seed quantity is weighed and multiplied by the factor “40” (at $\frac{1}{40}$ ha) or factor “10” (at $\frac{1}{10}$ ha) The calculated seed rate is equivalent to the seed rate in kg/ha.

Calibrated seed quantity for $\frac{1}{40}$ ha $\times$ 40 =	seed rate in kg/ha
Calibrated seed quantity for $\frac{1}{10}$ ha $\times$ 10 =	seed rate in kg/ha

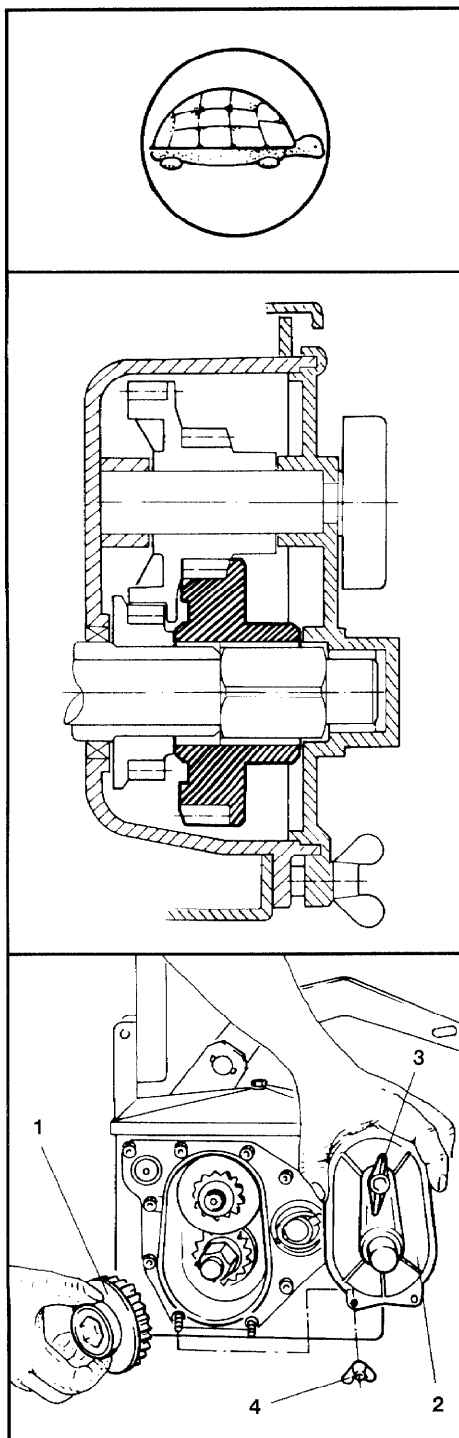


Fig. 4

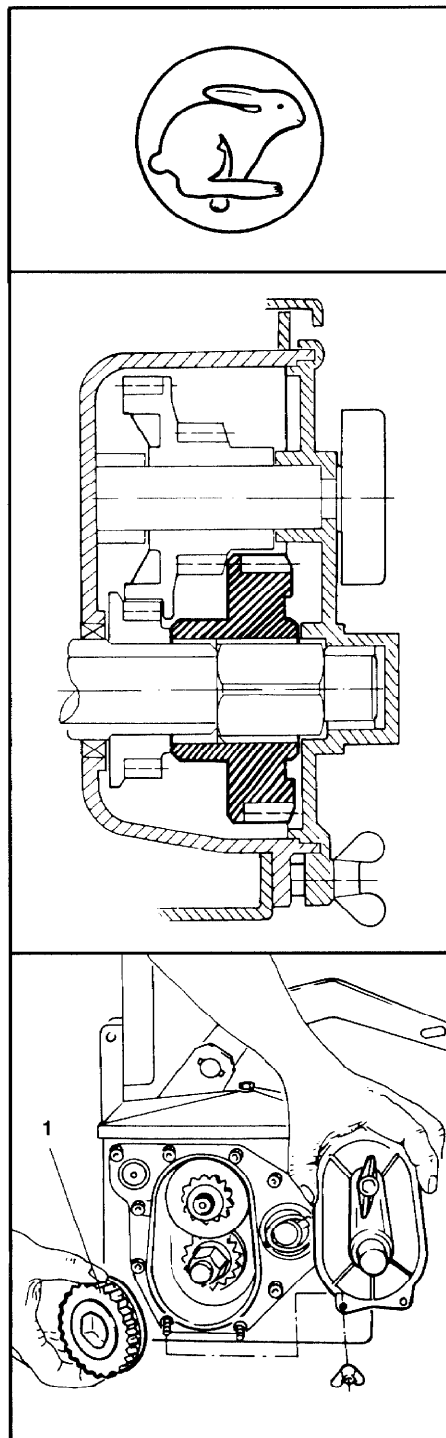


Fig. 5

Hints for sowing with the stepless variable gearbox with two range low/high rate adjuster

The AMAZONE seed drill gearbox allows a stepless change of the metering shaft and thus of the seed rate. Two shaft speeds can be selected by turning a pinion of the low/high rate adjuster:

low rate (ref. Fig. 4/A)	high rate (ref. Fig. 4/B)
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By changing the gearbox from low to high rate the setting range of the setting scale is increased. The factory supplies the gearboxes always set on the low rate. The high rate should only then be used when at setting "100" on the scale in the low rate the desired seed rate cannot be obtained.

Setting the gearbox to high seed rate setting

If it is necessary to change the gearbox from low to high rate, open the side cover (Fig. 4/2) at the gearbox housing by undoing the thumb bolt (Fig. 4/3) and the two thumb nuts.

Pull the lower pinion off the shaft (Fig. 4/1) and reinsert it after turning it as shown in Fig. 5/1. If it is impossible to remove the pinion by hand move the metering shaft with a pair of pliers in the turning direction of the shaft until the pinion can be removed easily from the shaft.

Whilst the pinion in the low rate setting (Fig. 4) is being driven by the upper pinion, it is running free when in the high rate setting (Fig. 5). After changing the position of the pinion put on cover again.

Determining the gearbox setting number after conversion to high seed rate

For determining the correct gearbox setting No. after conversion to high rate setting conduct your first calibration test e.g. with the gearbox setting No. "50". With the weight of seed collected find your correct setting with the aid of the setting disc rule.

For the first calibration test the gearbox setting No. can also be calculated by the seed rate chart as follows:

Divide the desired seed rate (kg/ha) by 3 and take from the setting table that setting No. which corresponds to the calculated seed rate. Now conduct your first calibration test with this gearbox setting No.

Contents of seed setting charts

(Note: "0,... kg/l" is bulk density of the seed)

"TGW" stands for "thousand grain weight"

	Page
Dinkel (spelt)	2
Oats, moist dressed	3
Rye, moist dressed (normal metering wheel)	4
Rye, moist dressed (fine seed metering wheel)	5
Spring Barley, moist dressed	6
Winter Barley, moist dressed	7
Wheat, moist dressed	8
(Horse) Beans, small (normal metering wheel)	10
(Horse) Beans, large (bean metering wheel)	11
Peas	12
Grass-seed	13
Sorghum	14
Lupines	15
Alfalfa (Lucerne) (normal metering wheel)	16
Alfalfa (Lucerne) (fine seed metering wheel)	17
Oil-Radish (normal metering wheel)	18
Oil-Radish (fine seed metering wheel)	19
Phacelia (normal metering wheel)	20
Phacelia (fine seed metering wheel)	21
Rape seed (incrusted - pilleted)	22
Rape seed, not dressed	23
Red Clover (normal metering wheel)	24
Red Clover (fine seed metering wheel)	25
Mustard (normal metering wheel)	26
Mustard (fine seed metering wheel)	27
Soybeans	28
Sunflowers	29
Late turnip	30
Vetches	31
Flax	32

For any seeds which are not mentioned in the setting chart we recommend for the first calibration test to look for corresponding values of another seed having a similar size of the grain.

If the **first** calibration test did not result in the desired seed rate the new gearbox lever scale setting for the correct seed rate can simply be determined by the enclosed seed rate calculation disc rule (please refer to the corresponding chapter).

Horse beans, small		Shutter slide position		3/4 open		Type of seed drill							
		Bottom flap position		6		D8 SUPER D8 SPECIAL	RP-AD 2 AD 2						
		Type of metering wheel		Normal metering wheel									
		Hints											
0,86 kg/Ltr.													
Row spacing (cm)										Gearbox setting No.			
15	20		25	30		35	40	45					
94	70		56	47		40	35	31		20	23		
140	105		84	70		60	53	47		30	34		
187	140		112	94		80	70	62		40	45		
234	176		140	117		100	88	78		50	56		
281	211		168	140		120	105	94		60	68		
328	246		197	164		140	123	109		70	79		
374	281		225	187		160	140	125		80	90		
421	316		253	211		181	158	140		90	100		
468	351		281	234		201	176	156		100			
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