Data sheet

area design — page 1

INPUT MASS

		[kg / week]		[kg / year]
Amount of green waste	m_{GrW} =		* 52 weeks/year =	
Amount of graden waste	m_{GaW} =		* 52 weeks/year =	
Amount of structure material	m_{StM} =		* 52 weeks/year =	
Total amount of input material	m_{Tot} =		* 52 weeks/year =	

STORAGE AREAS

Input material

m_{Xxx} =		[kg / week]
bulk density =		[kg / m³]
dumping height =		[m]
dwell time =		[week]

$$storage\ area = \frac{m_{Xxx}}{bulk\ density * dumping\ height} * \frac{dwell\ time}{6}$$

storage area 1 =

Input material

m_{Xxx} =		[kg / week]
bulk density =		[kg / m³]
dumping height =		[m]
dwell time =		[week]

$$storage\ area = \frac{m_{Xxx}}{bulk\ density * dumping\ height} * \frac{dwell\ time}{6}$$

storage area 3 =

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STORAGE AREAS

Input material

m_{Xxx}	=	[kg / week]
bulk density	=	[kg / m³]
dumping height	=	[m]
dwell time	=	[week]

$$storage\ area = \frac{m_{Xxx}}{bulk\ density * dumping\ height} * \frac{dwell\ time}{6}$$

storage area 3 =

Compost

$m_{Compost}$	=	[kg / week]
bulk density	=	[kg / m³]
dumping height	=	[m]
dwell time	=	[week]

$$storage\ area = \frac{m_{Compost}}{bulk\ density * dumping\ height} * \frac{dwell\ time}{6}$$

storage area 4 = [m²]

$$total\ \ storage\ area = storage\ area\,(1 + 2 + 3 + 4)$$

Total storage area = [m²]

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ROTTING AREA

Input material	=	Total amount of input material	=	[kg / week]
Rotting time			=	[weeks]
Bulk density			=	[kg / m³]
Dumping height			=	[m]

$$rotting\ area = 1{,}3 * \frac{input\ material * rotting\ time}{bulk\ density * dumping\ heigth}$$

1,3 is a safety value, because the windrows have a different shape (rectangle / trapezoid).

Rotting area	=	[m²]

PRE-TREATMENT AND PREPARATION AREAS

Dimensions of the used machines in whole:	=	[m²]

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TOTAL STORAGE AREA	=	[m²]
	=	[m²]
PRE-TREATMENT AND PREPARATION AREAS	=	[m²]

$$all\ toghter = total\ storage\ area + rotting\ area + pre-treatment and\ preparation\ areas$$

all togther	=	[m²]

$$traffic\ way = all\ togther * 0{,}25$$

TRAFFIC WAYS (add 25%)	=	[m²]

$$total\ requierd\ area = all\ togther + traffic\ ways$$

TOTAL REQUIERD AREA	=	[m²]