



Mechanical seeders and fertiseeder to save labor for direct seeded rice in the lowland and upland of Madagascar



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Partner:

- Centre de Fabrication, de Formation et d'Application du Machinisme et de la Mécanisation Agricole



Seeders and fertiseeder description

Two types of mechanical seeders, specifically the CFFAMMA seeder (Figure 1A) and the New seeder (Figure 1B), were developed along with a fertiseeder (a manual seeder combined with a fertilizer micro-dose applicator) to save labor in direct seeded rice. The seeders are designed with a single row rotary mechanism for dibbling seeds, while the fertiseeder allows simultaneous dibbling of seeds and precise placement of fertilizer micro-doses.

Field trials were conducted in both lowland and upland conditions in Madagascar over two consecutive seasons in 2018 and 2019. Compared to manual seeding, the two manual seeders reduced labor requirements by 70-80%, while the fertiseeder reduced labor requirements by 83% when combined with micro-dose placement. Feedback from 222 farmers was considered to improve the Fertiseeder 1. These machines are now ready for scaling up.

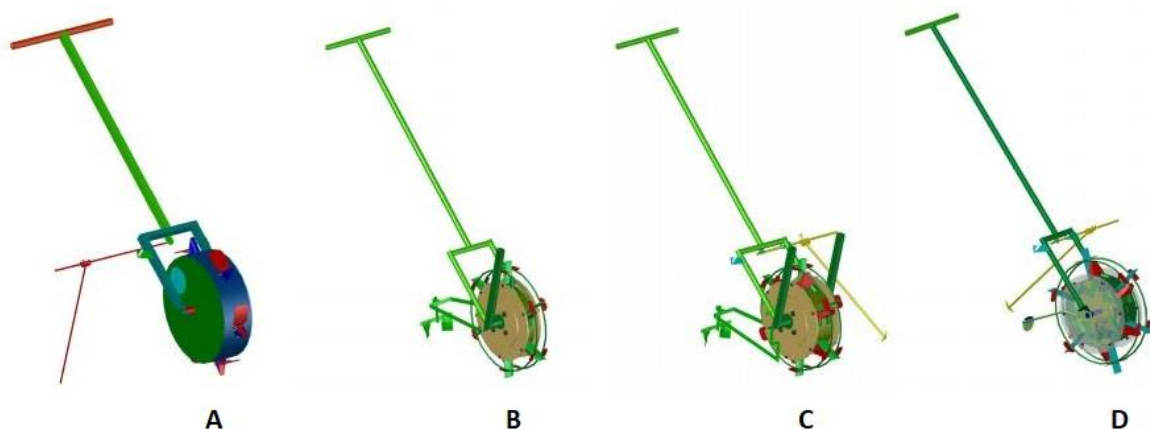
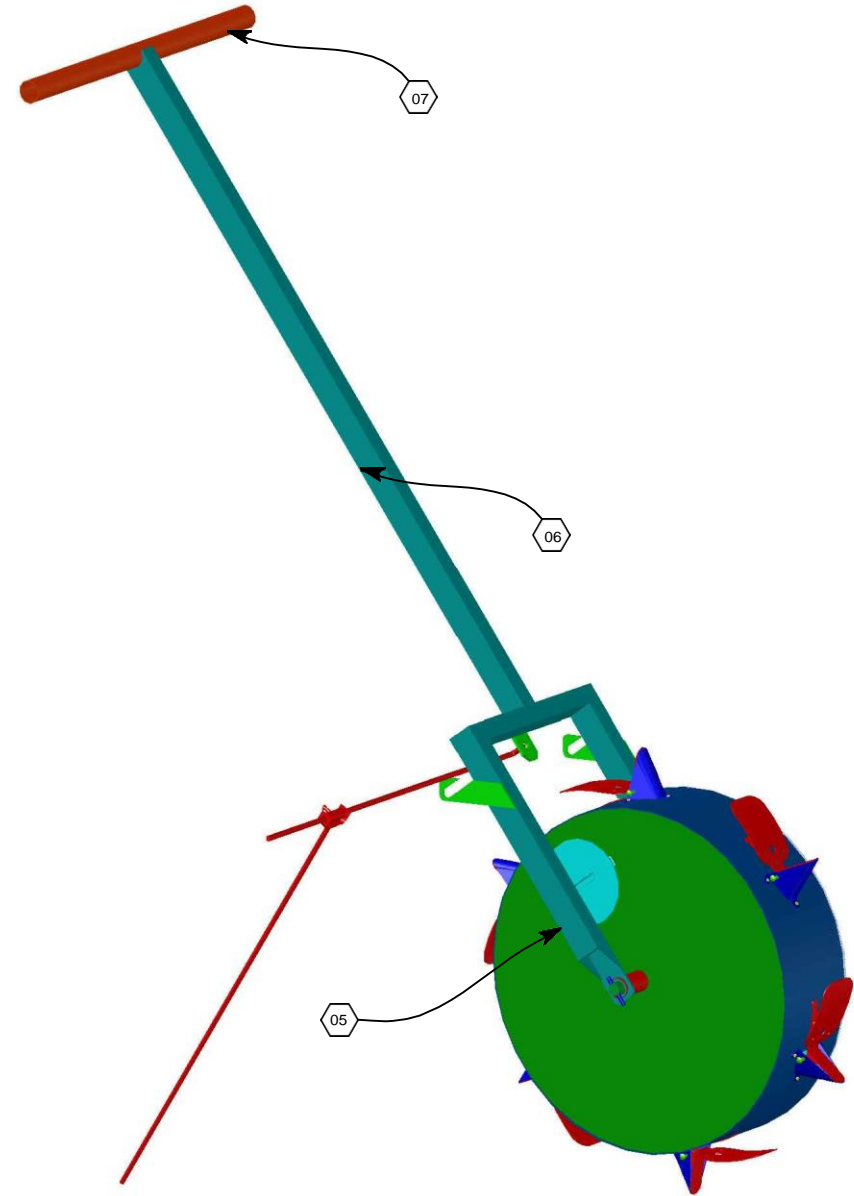
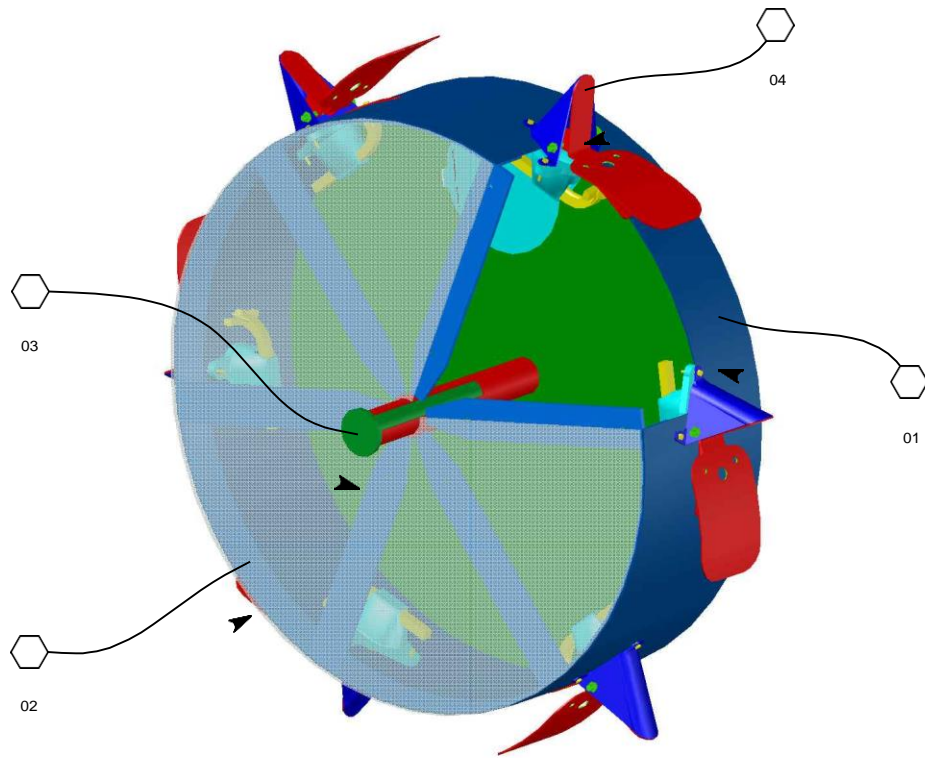




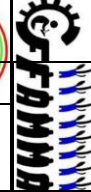

Figure 1. Technical drawings of CFFAMMA seeder (A), New seeder (B), Fertiseeder 1 (C) and Fertiseeder 2 (D).

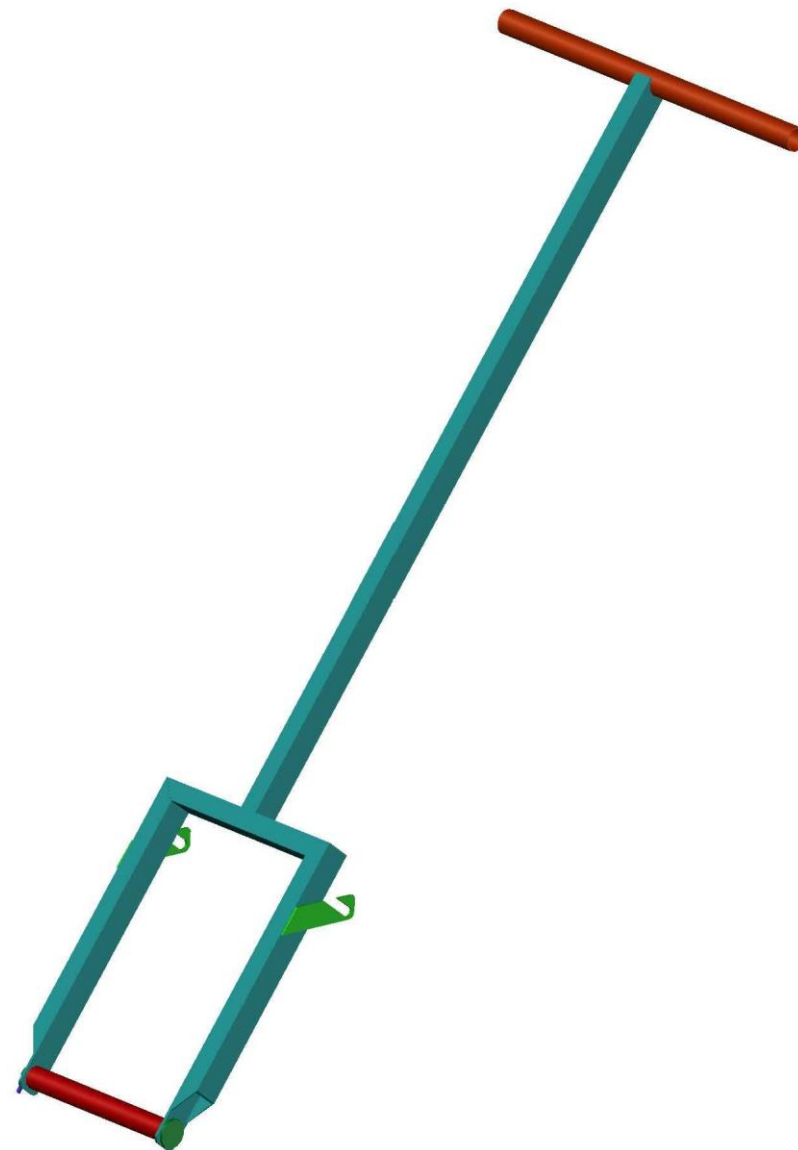
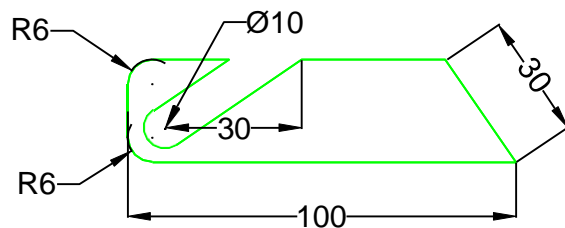
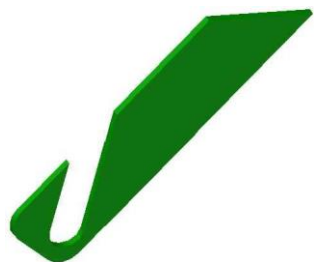
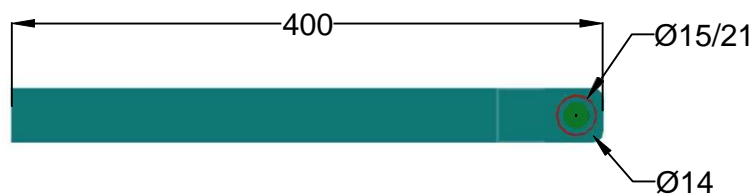
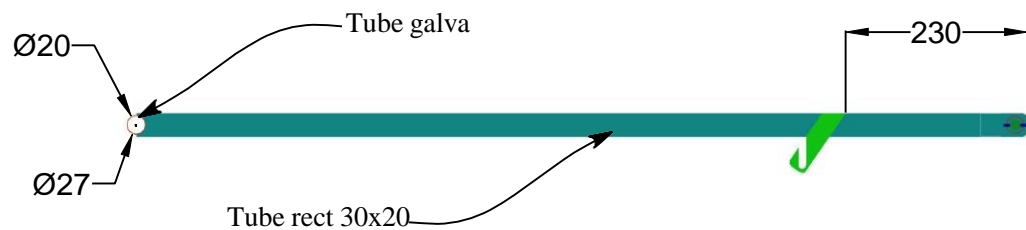
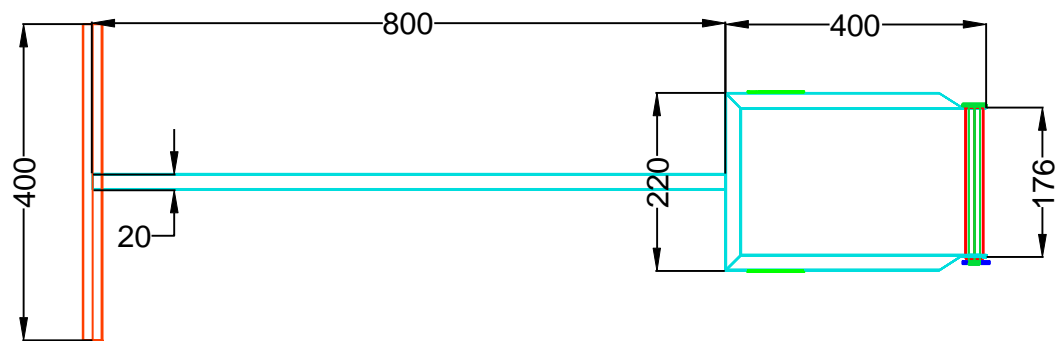
For detailed technical drawings of the above seeders and fertiseeder, please refer to the following pages.

A- CFFAMMA SEEDER

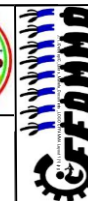


07	Mancheron	1	Tube galva Ø20/27
06	Manche	1	Tube rect 30mm x 20 mm
05	Support manche	1	Tube rect 30mm x 20 mm
04	Bec	6	TPN 12/10
03	Axe	1	Fer rond Ø14
02	Plexiglass	1	4 mm
01	Tremis	1	TPN 12/10
N°	Nomination	nbr	Matière

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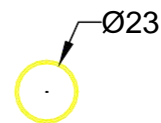
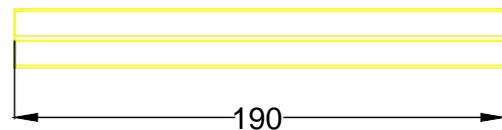
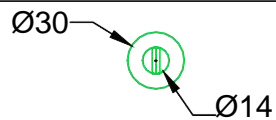
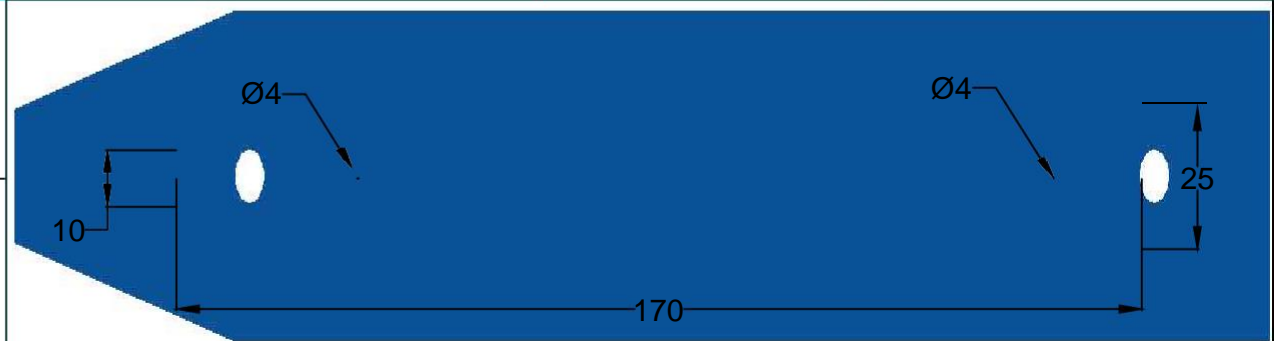
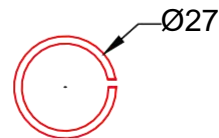
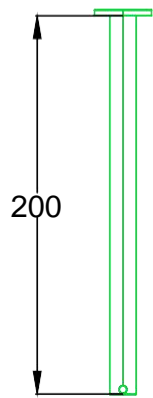
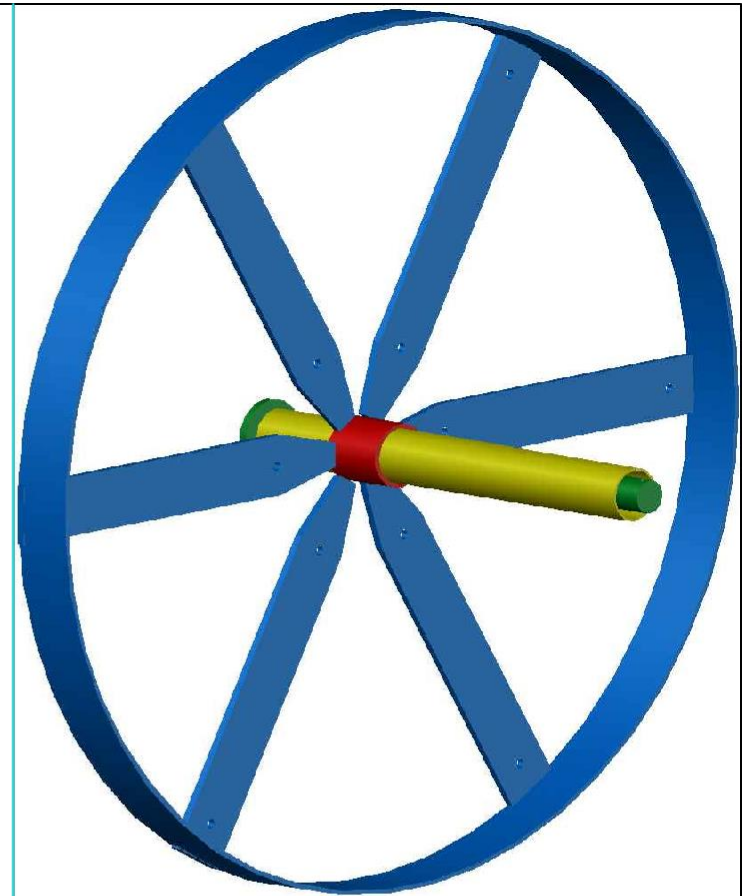
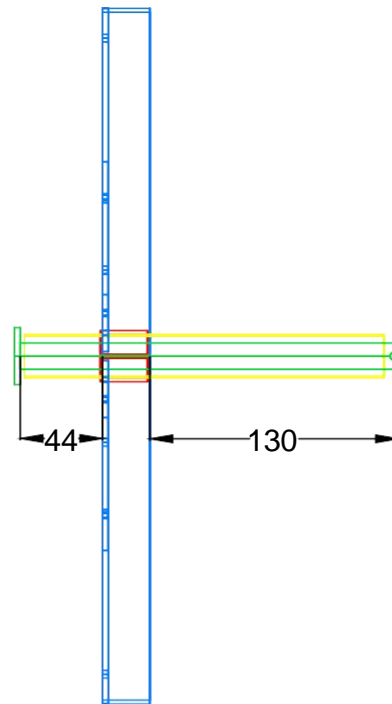
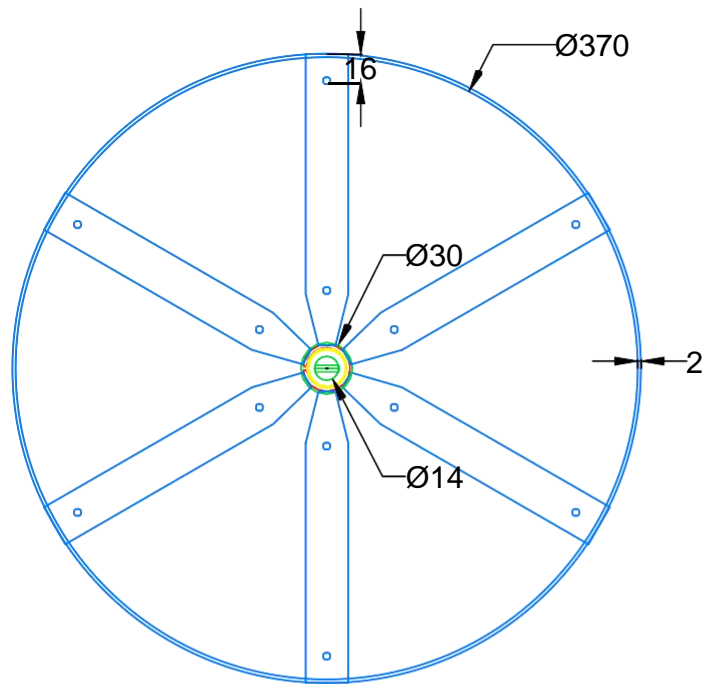
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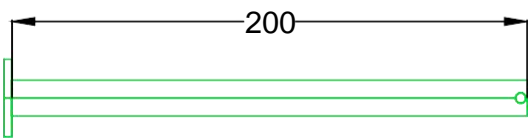
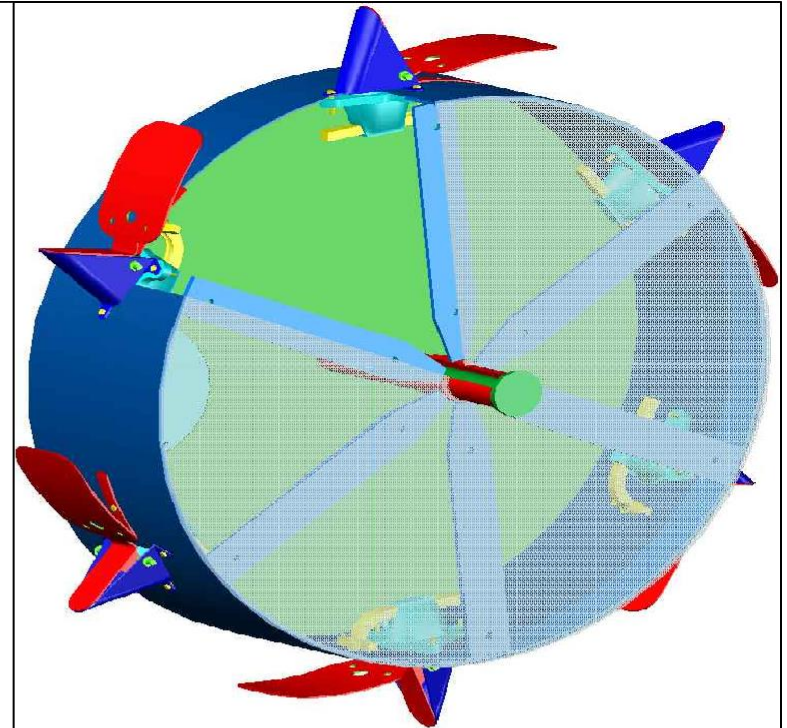
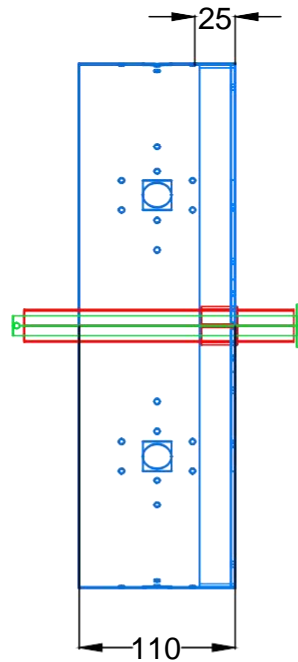
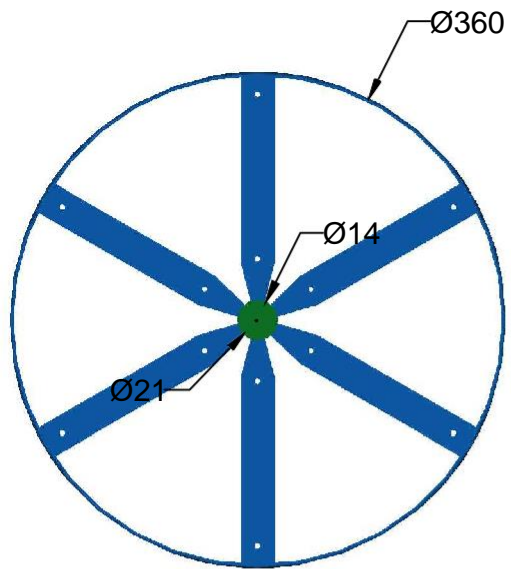
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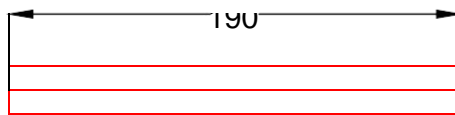
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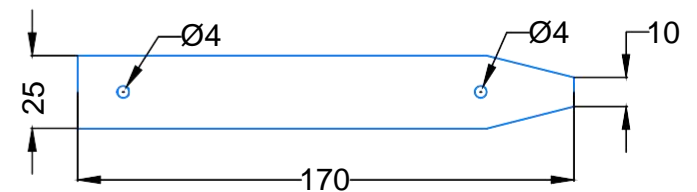
Fer Ø14



Tube Ø15/21



Fer plat 25x2x170 mm



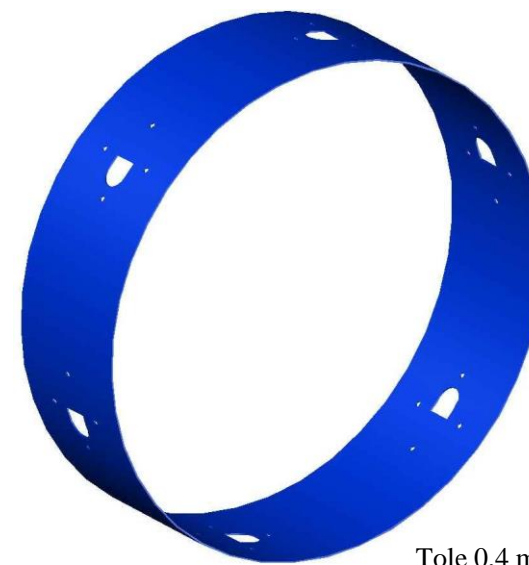
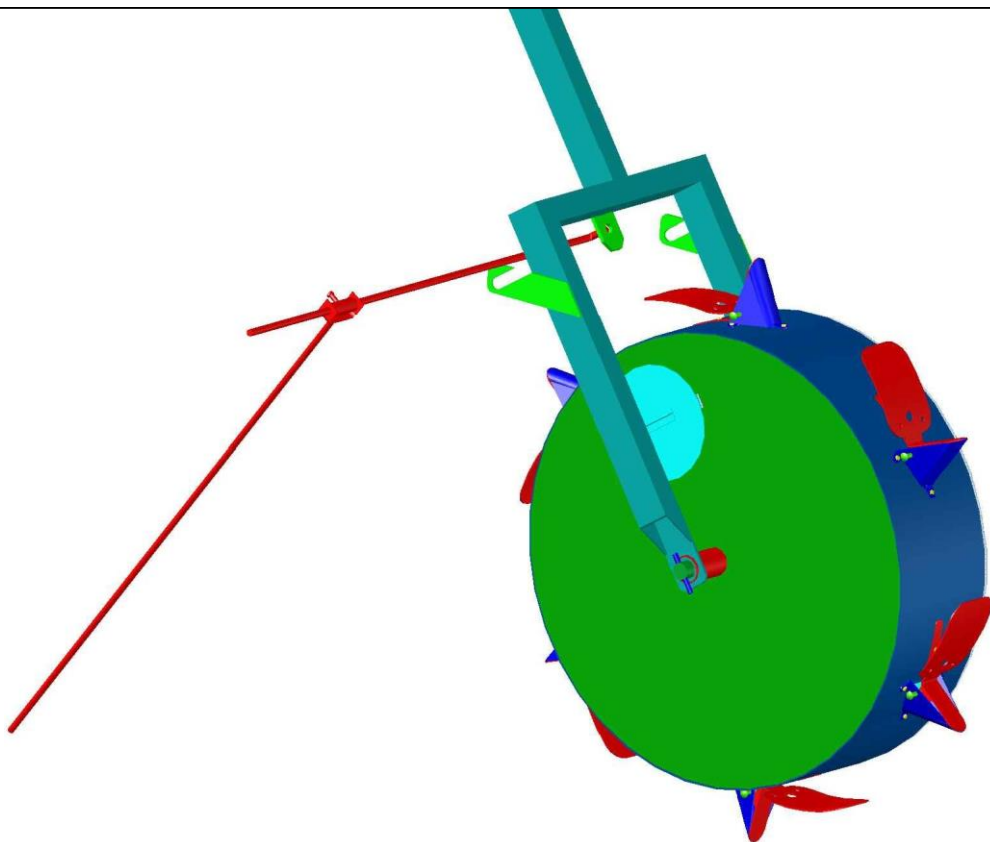
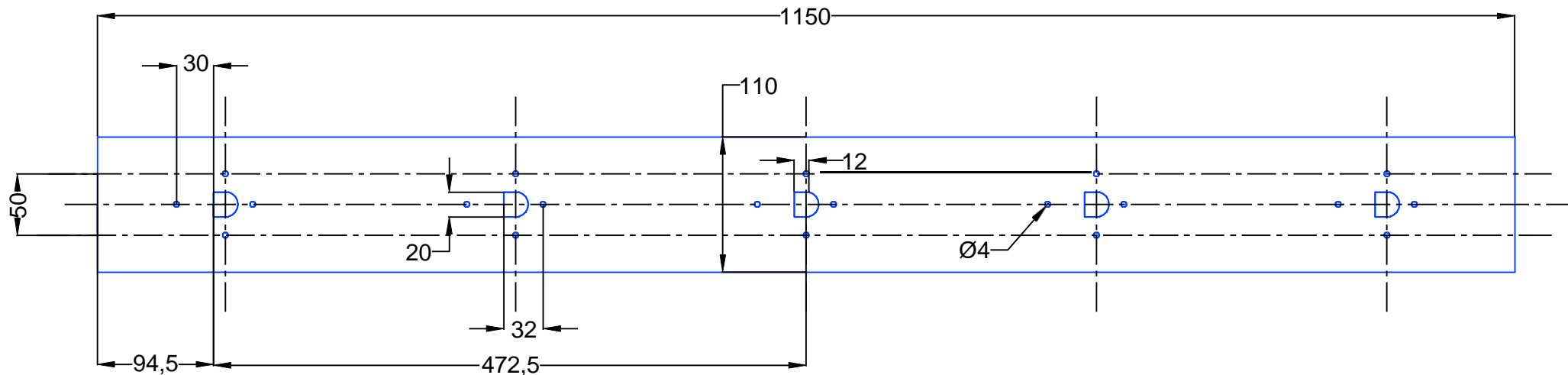
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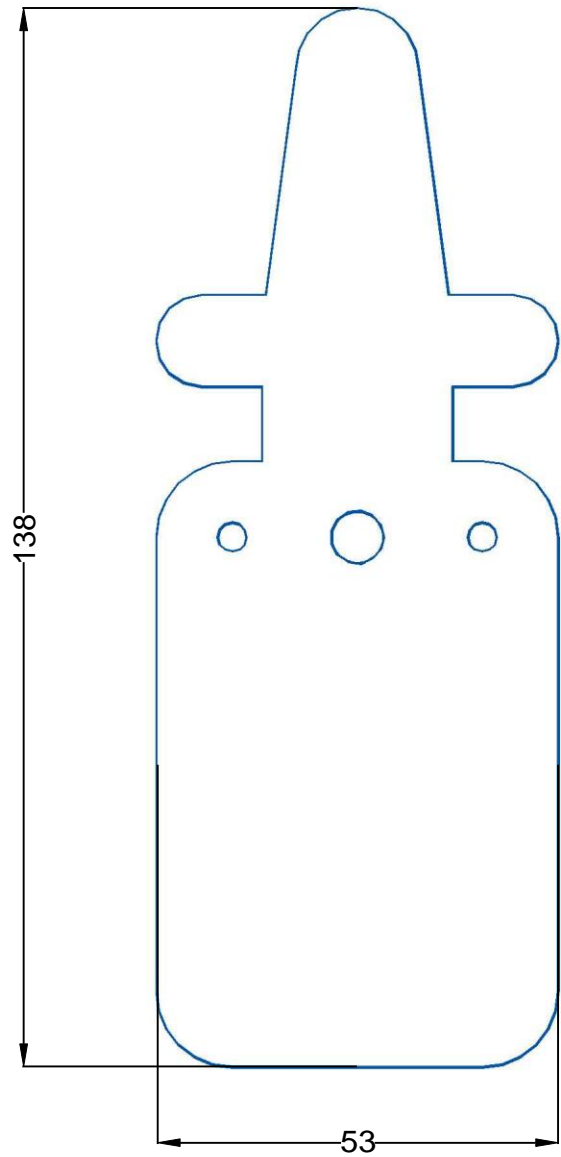
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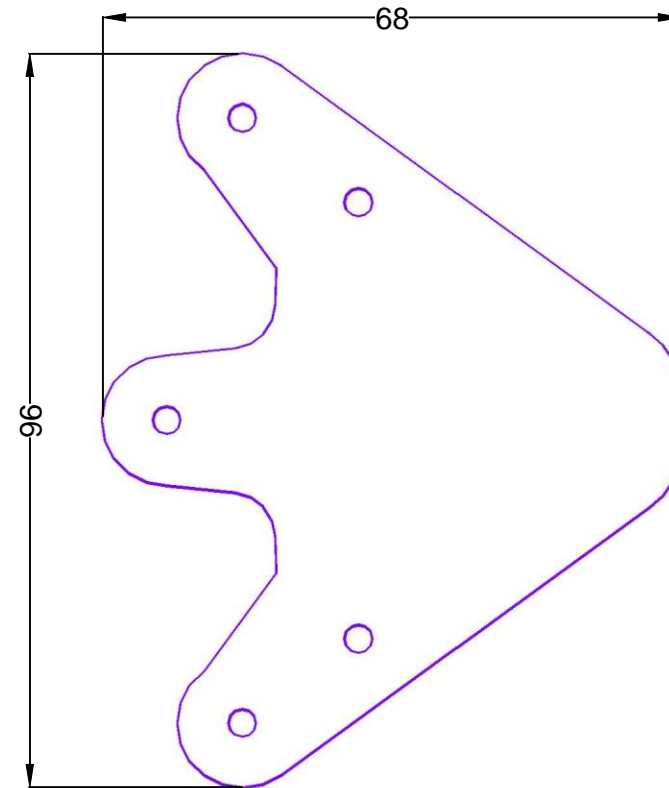
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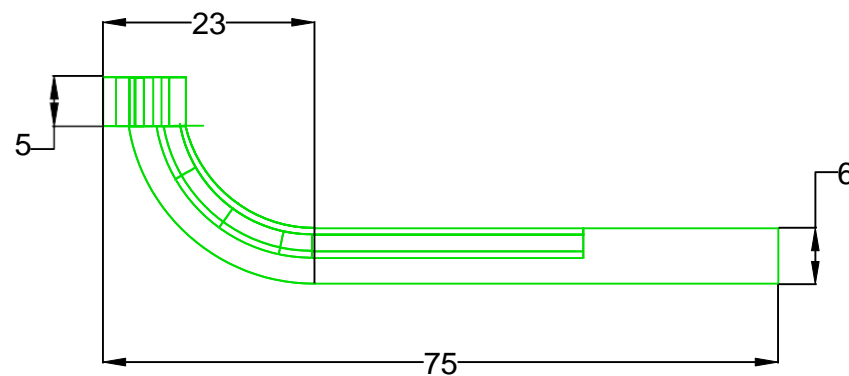
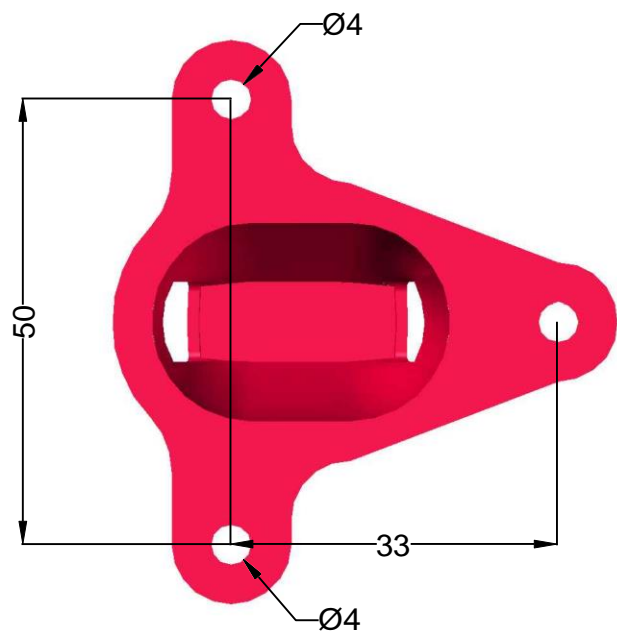
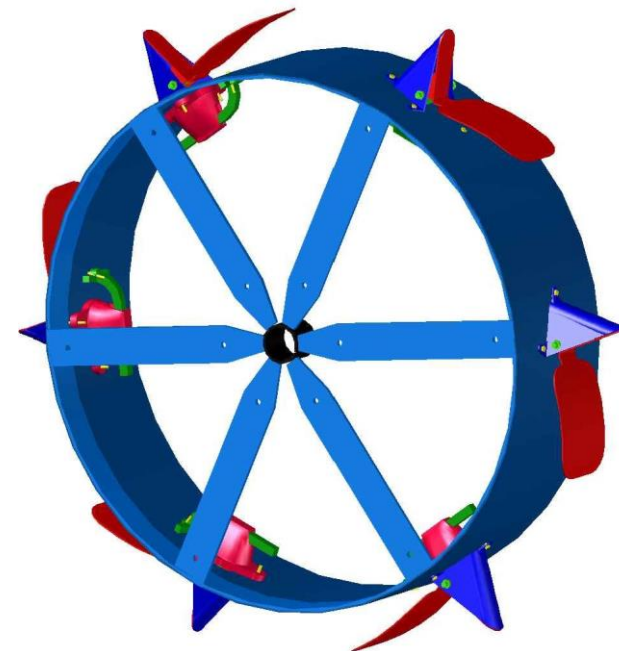
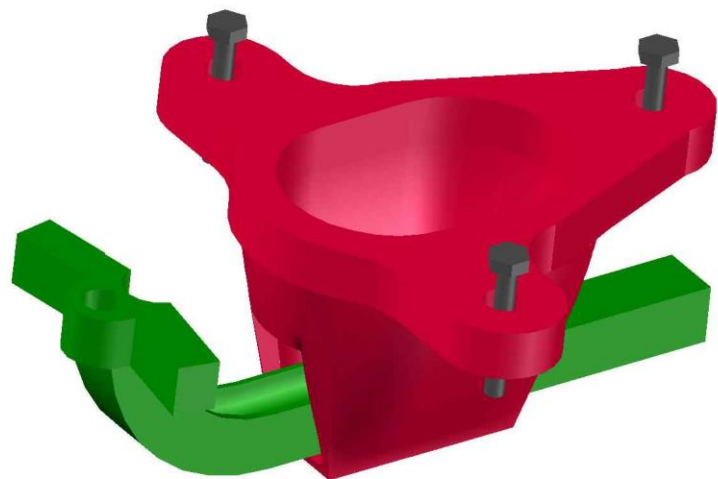
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Echelle 1:1



TPN 12/10 1.2mm

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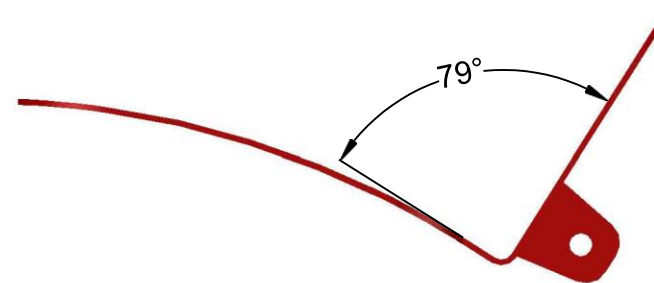
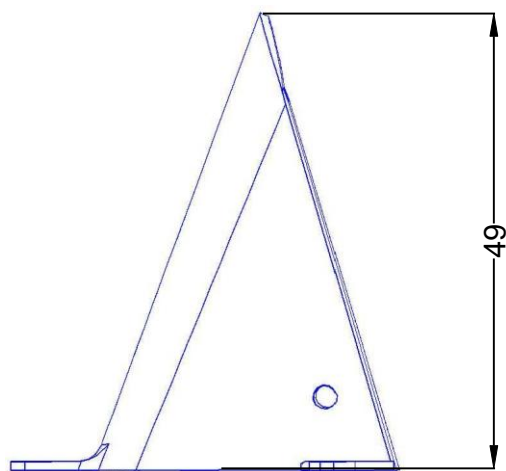
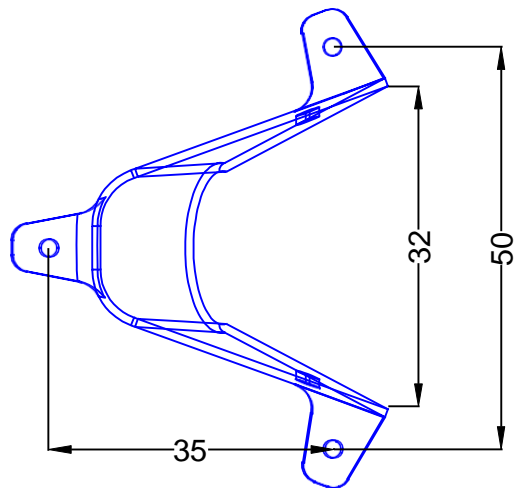
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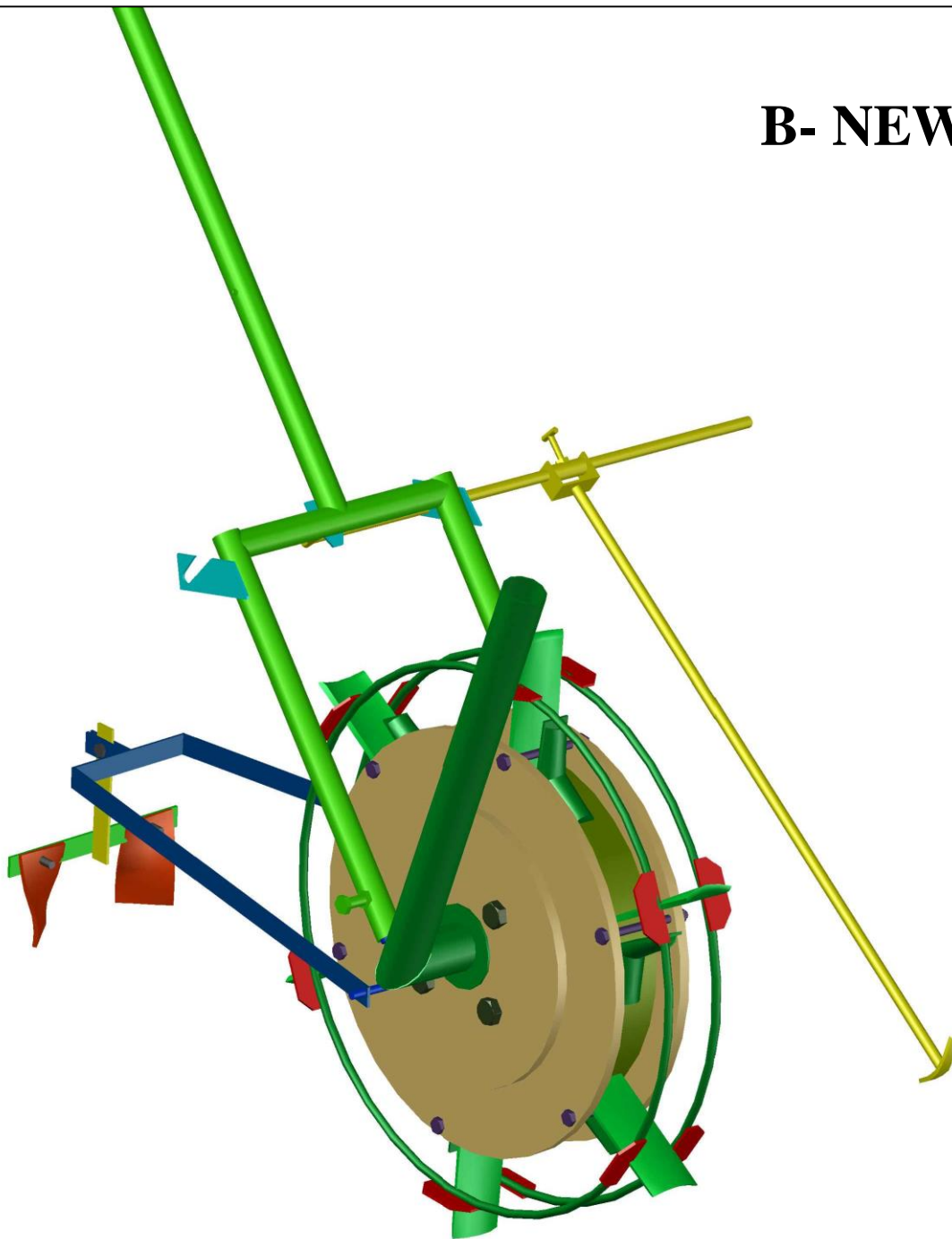


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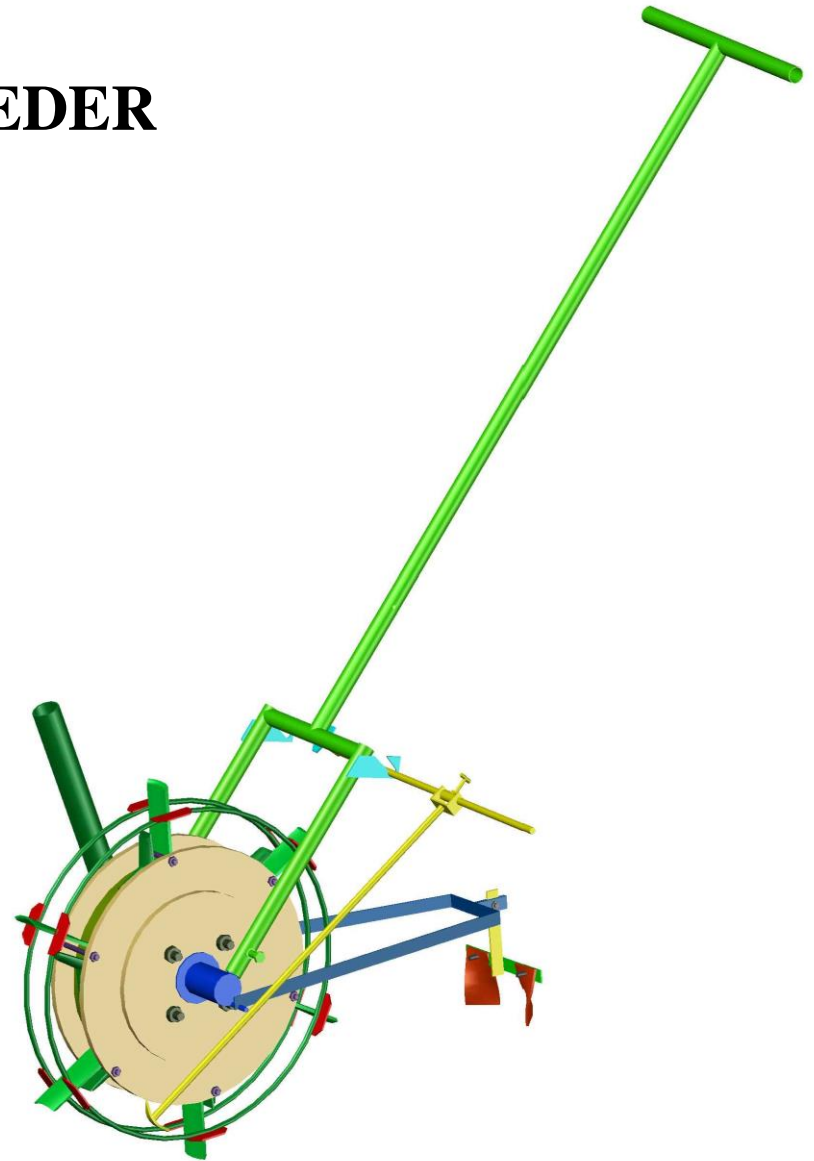
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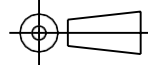
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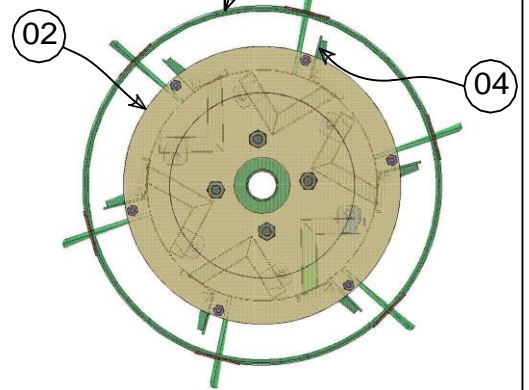
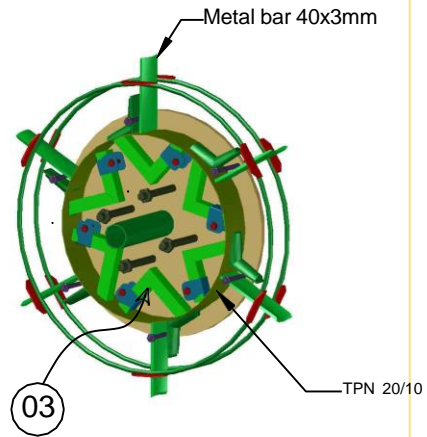
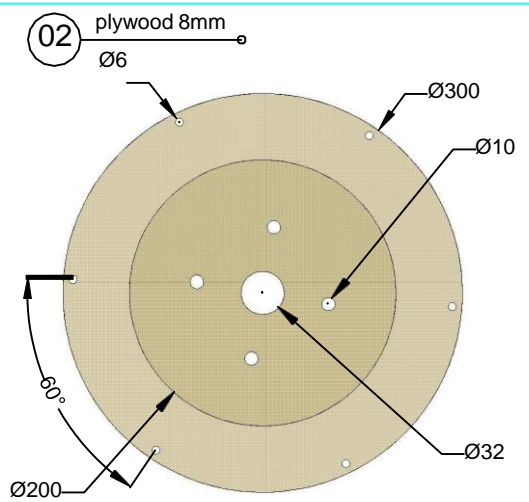
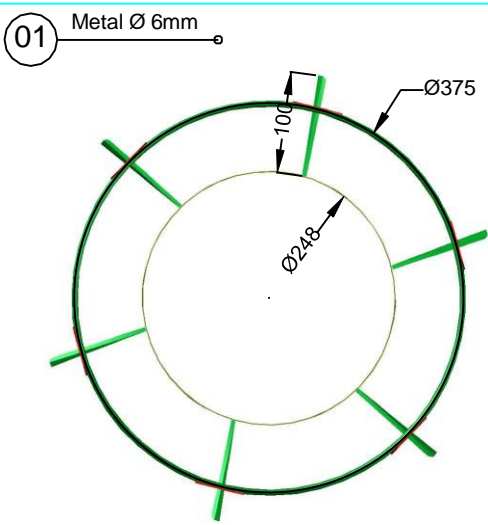
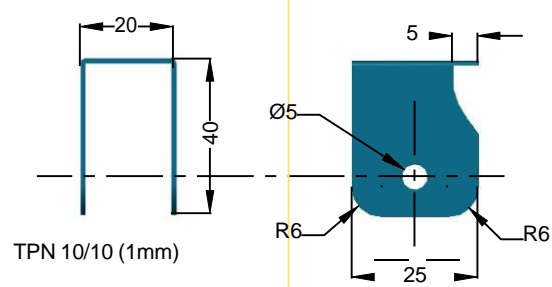
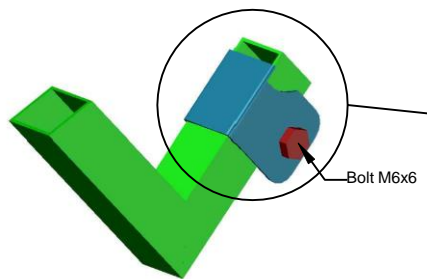
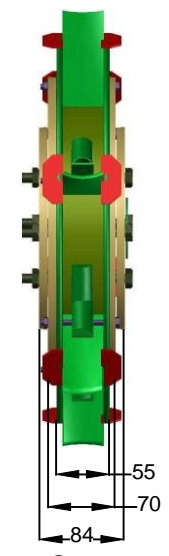
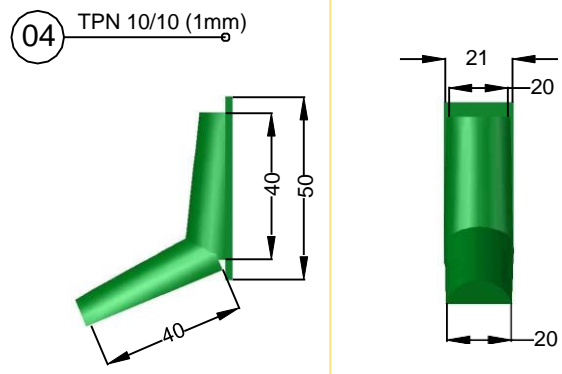
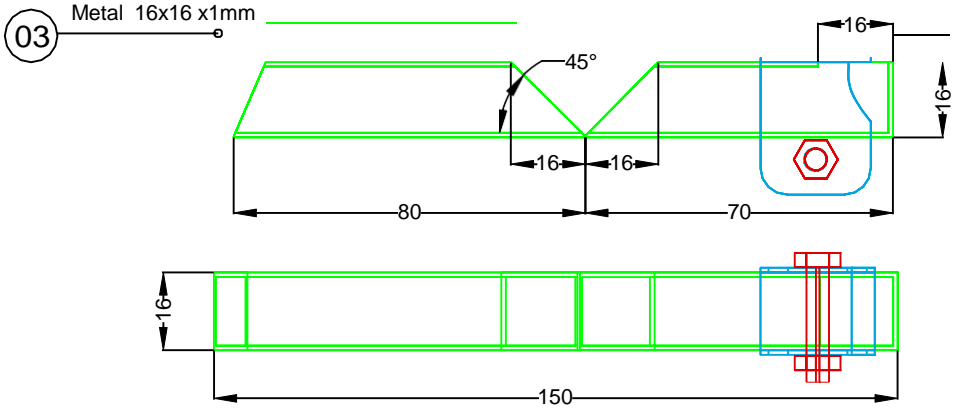
B- NEW SEEDER



NEW SEEDER



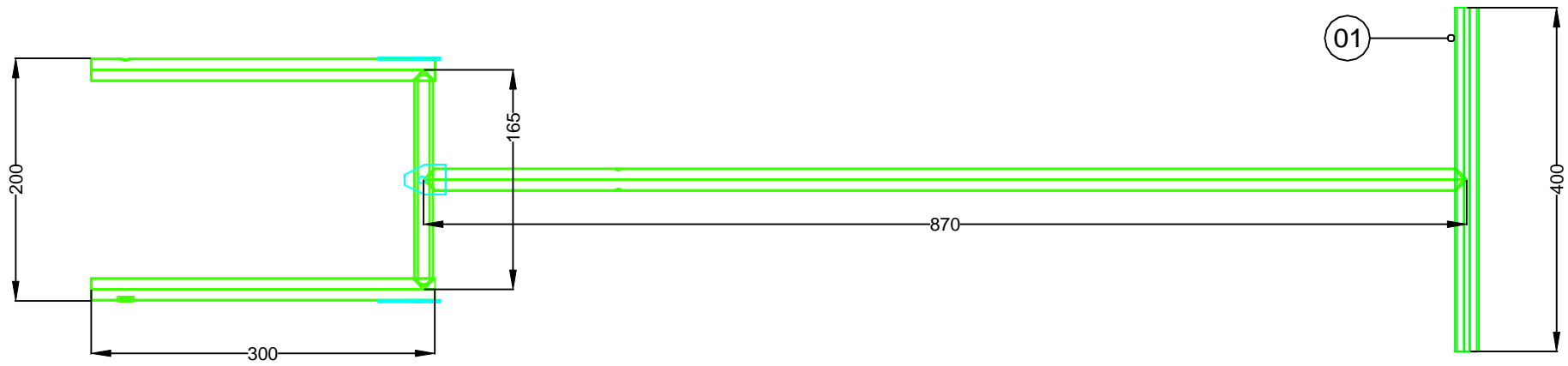
					
				NEW SEEDER	
	Drawn	Mahefa Rasoloharison	04/05/20	Material	Weight (kg)
	Mail	maahefarivo@gmail.com			
Scale :		Name	Date	DRAWING N° :	



NEW SEEDER

Scale :	Drawn	Mahefa Rasoloharison	04/05/20	Material	Weight (kg)
	Mail	maahefarivo@gmail.com			
	Name		Date	DRAWING N° : 001	

02

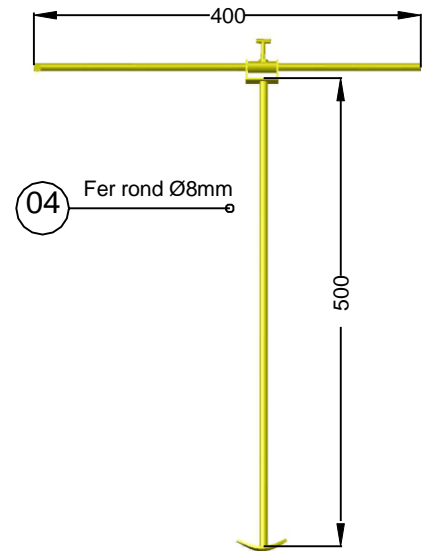
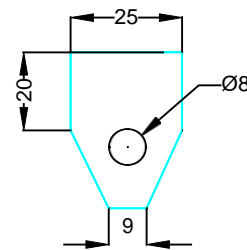
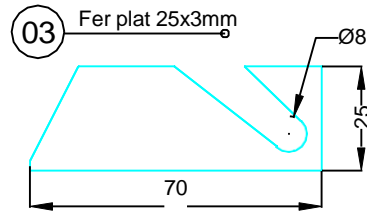


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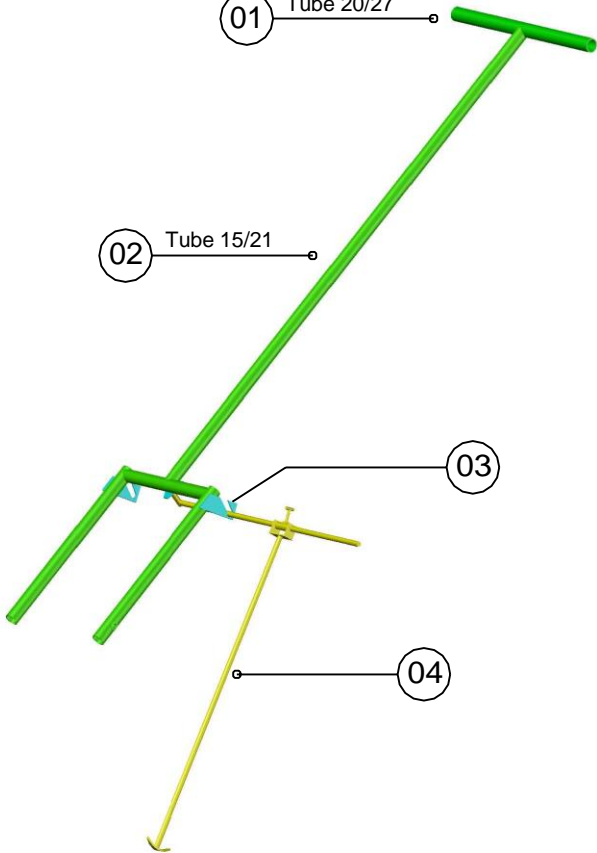
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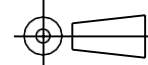
04



04 Fer rond Ø8mm



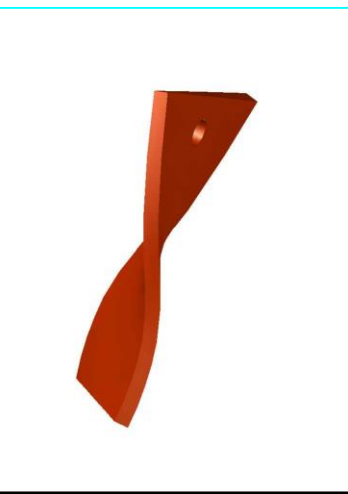
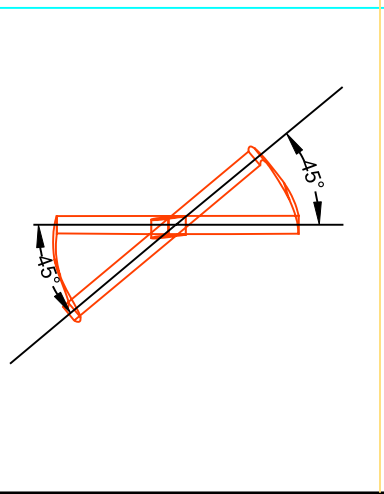
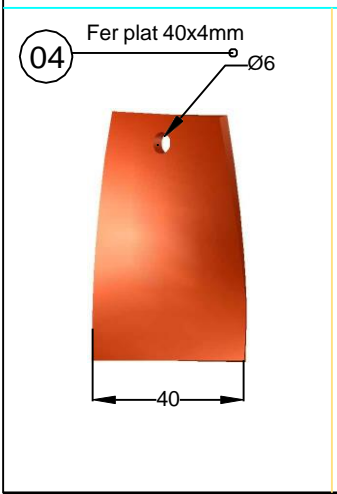
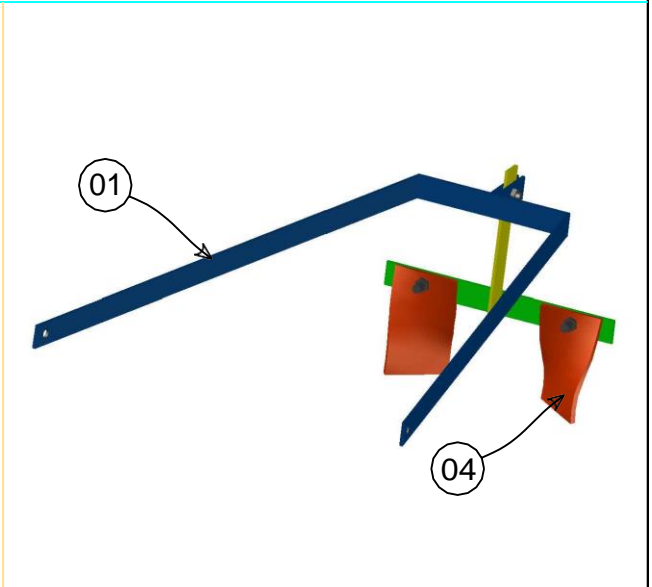
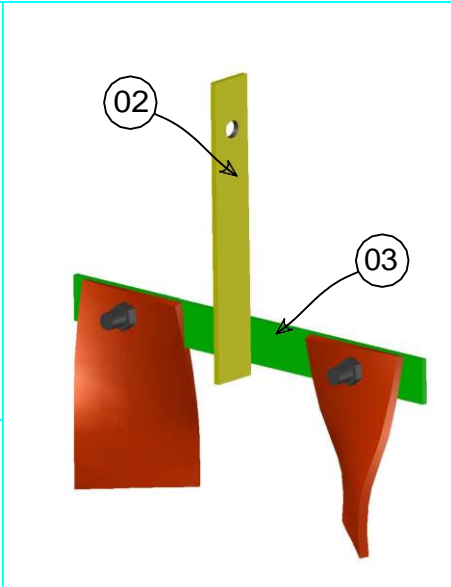
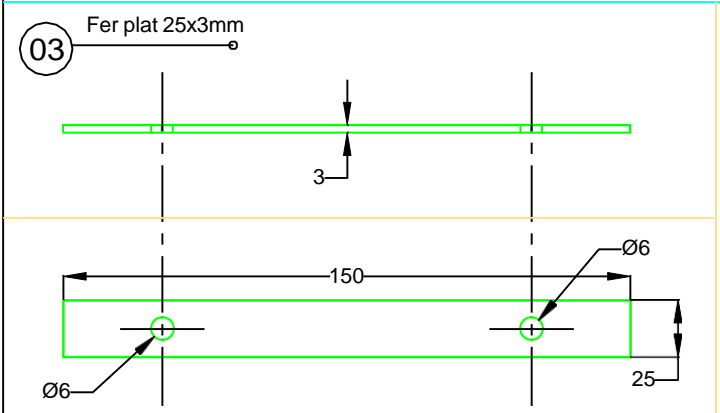
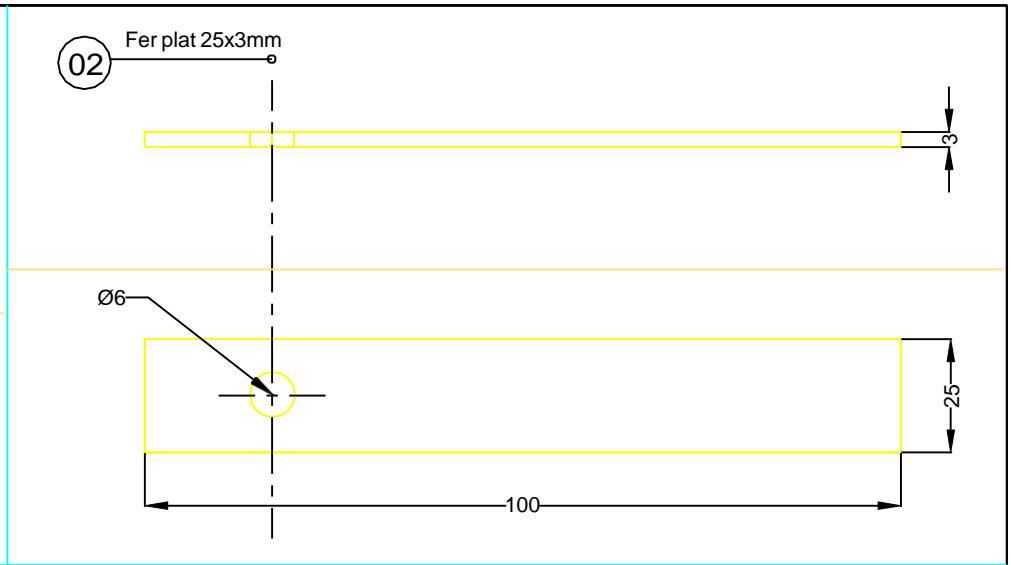
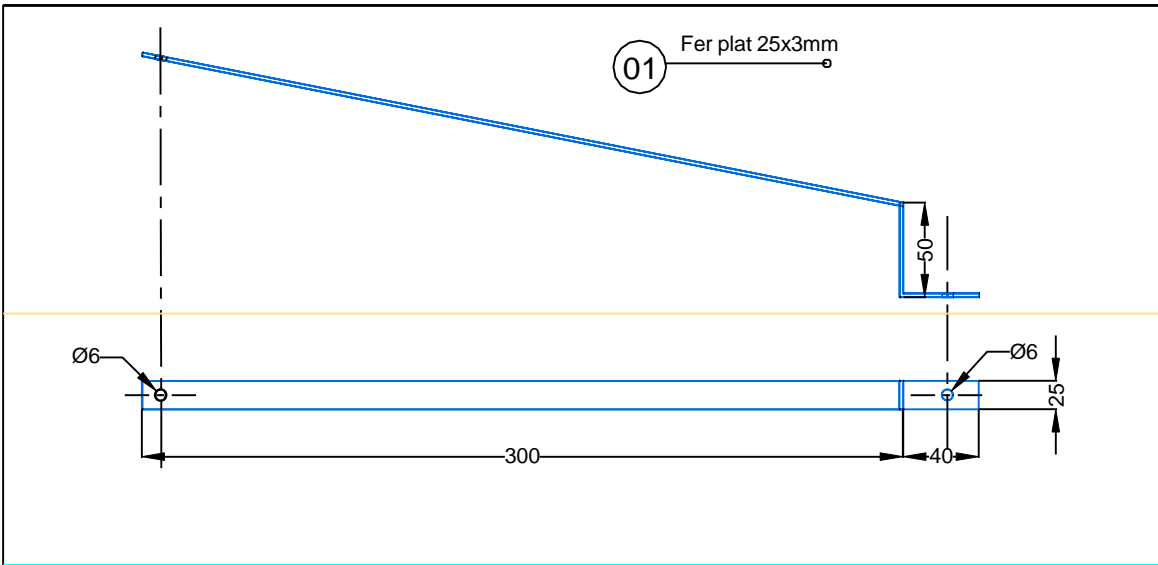
NEW SEEDER



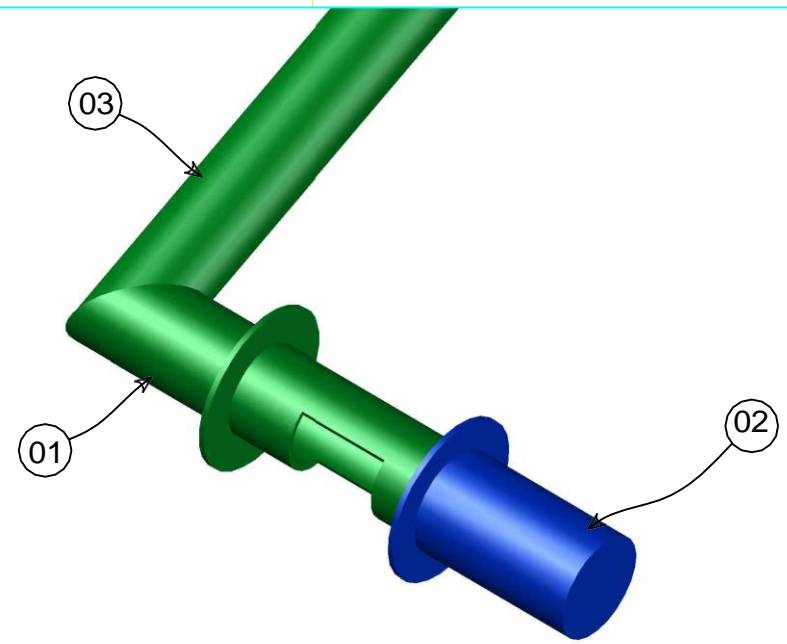
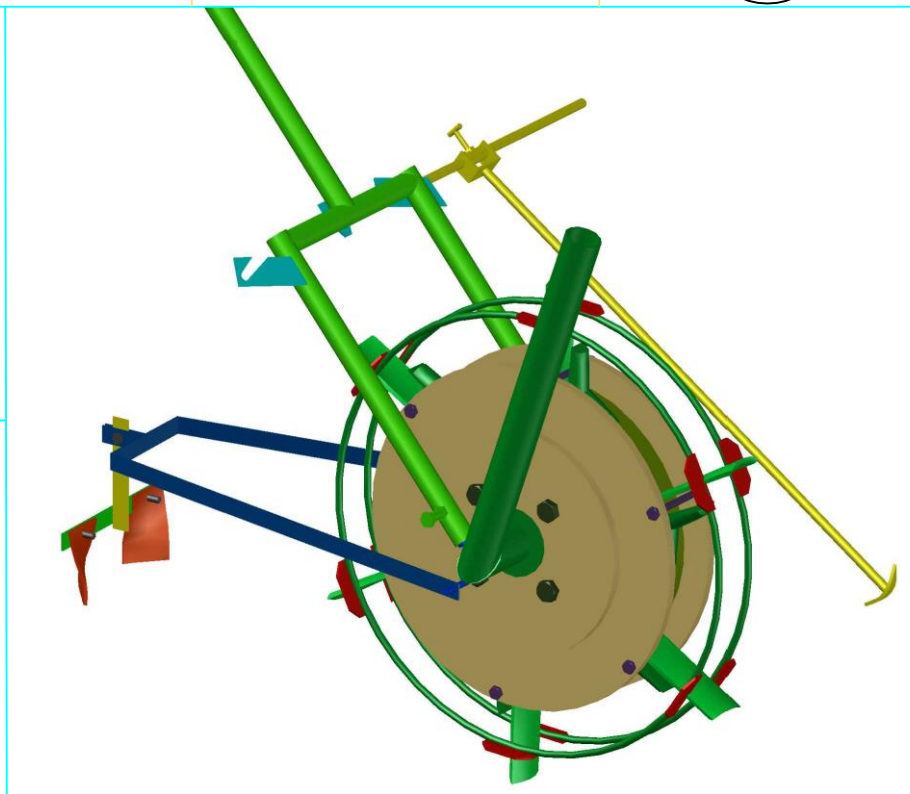
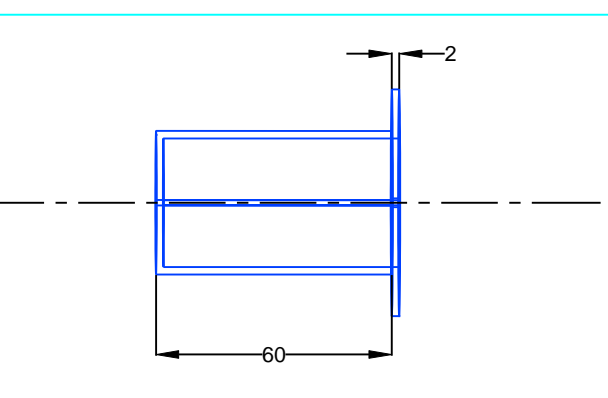
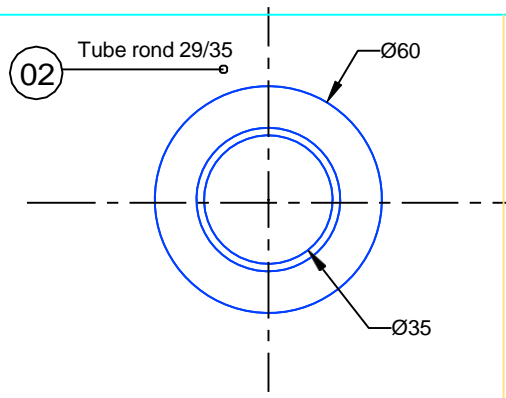
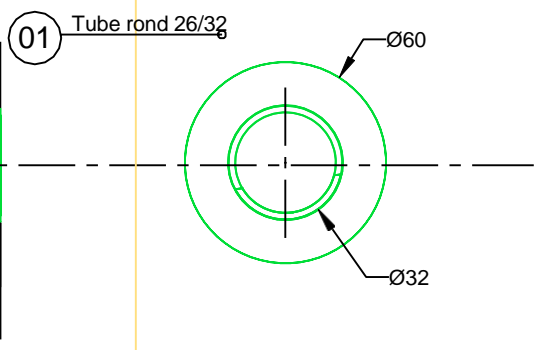
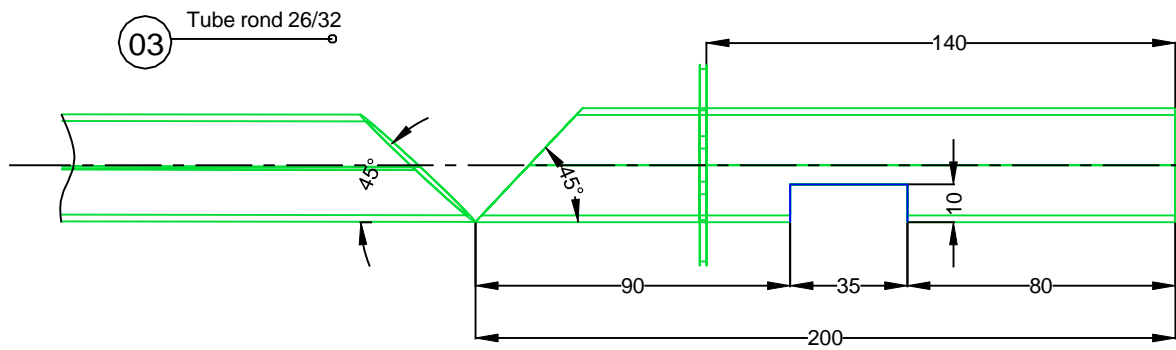
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Drawn	Mahefa Rasoloharison	
Mail	maahfarivo@gmail.com	04/05/20
	Name	Date

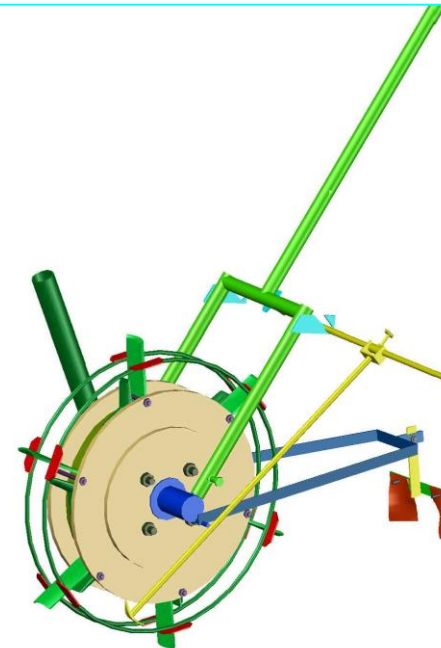
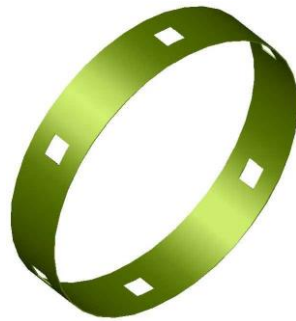
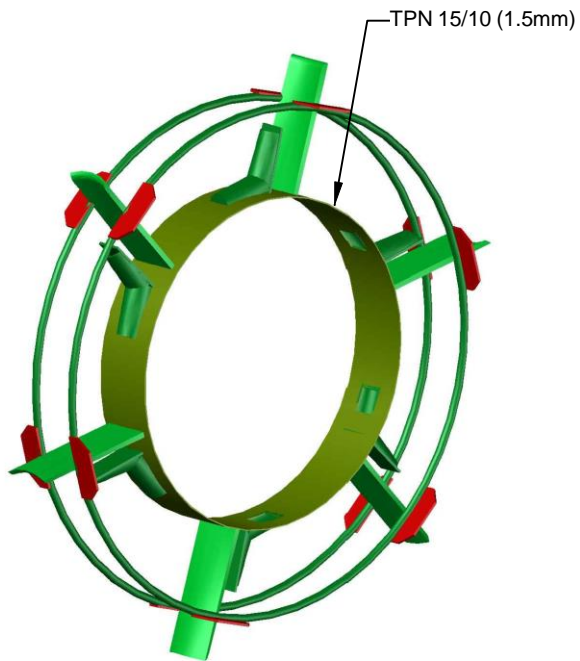
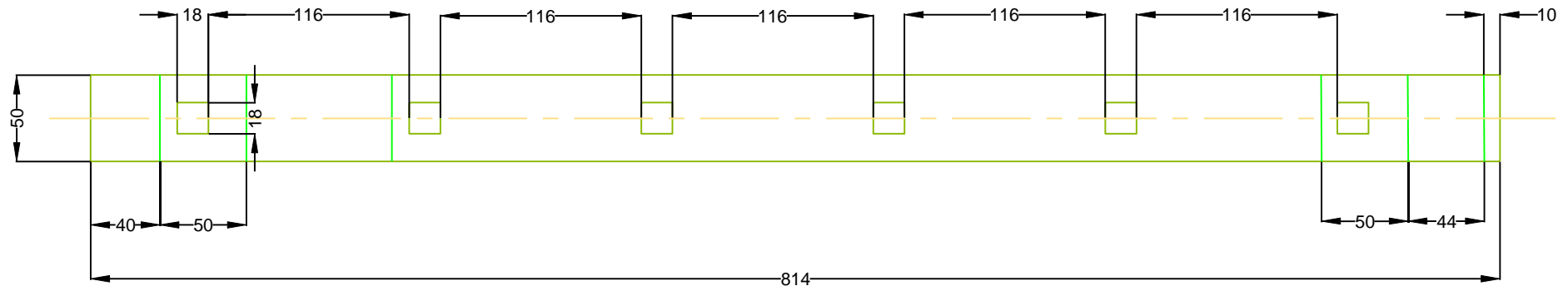
Material	Weight (kg)
DRAWING N° : 002	



		NEW SEEDER		 AfricaRice		
						Drawn
 Scale :		Mail	maahefarivo@gmail.com	04/05/20	Material	Weight (kg)
		Name		Date	DRAWING N° : 003	



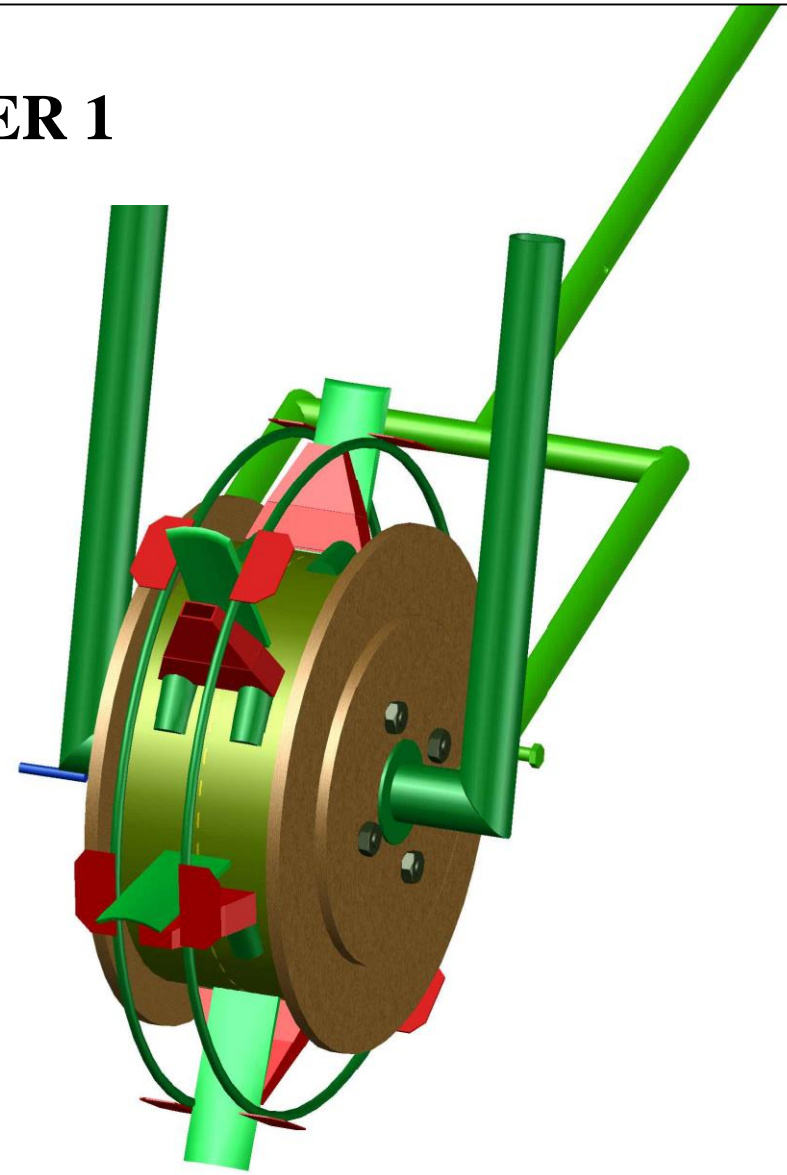
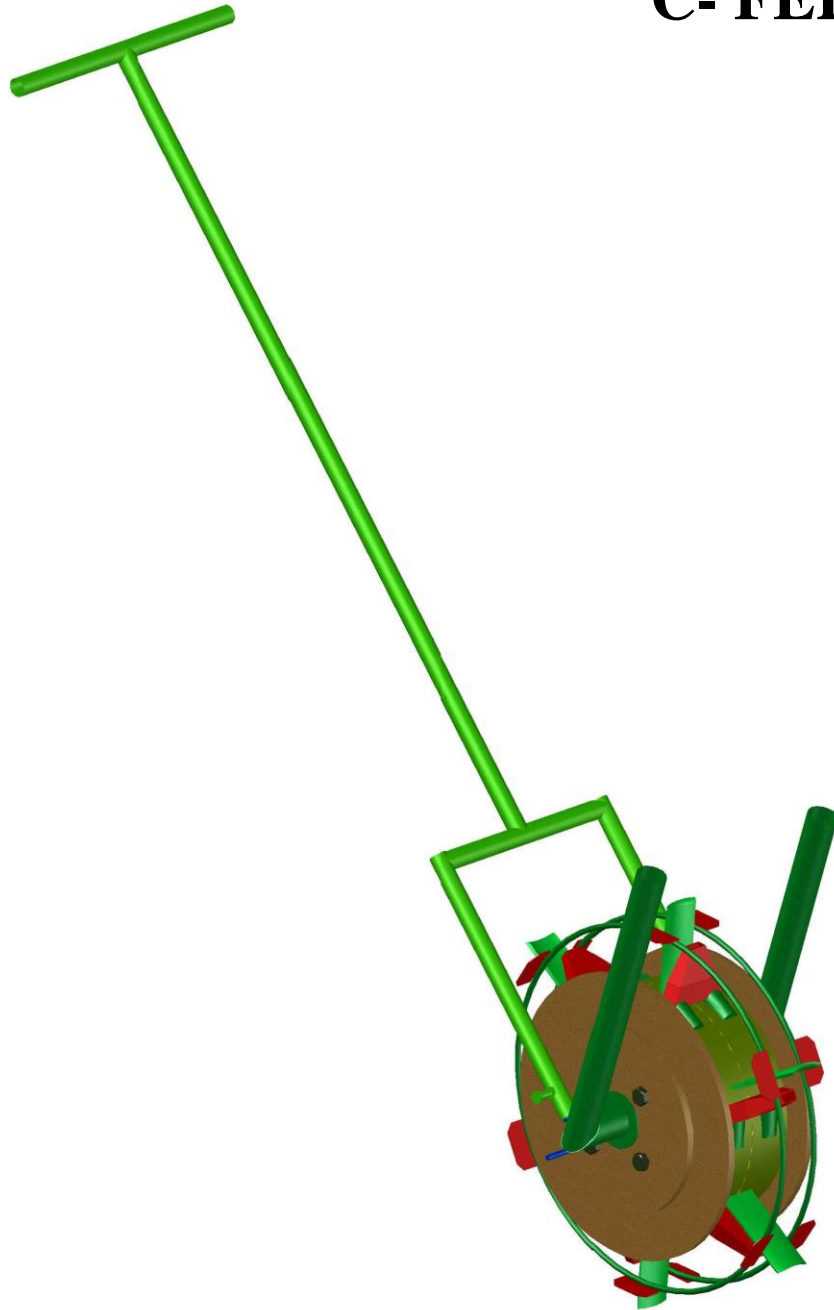
	NEW SEEDER			
	Drawn	Mahefa Rasoloharison		
	Mail	maahefarivo@gmail.com	04/05/20	Material
Scale :				Weight (kg)
		Name	Date	DRAWING N° : 004




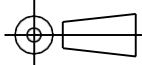
NEW SEEDER

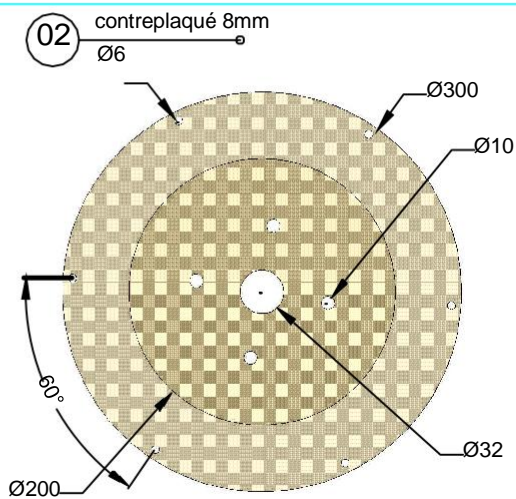
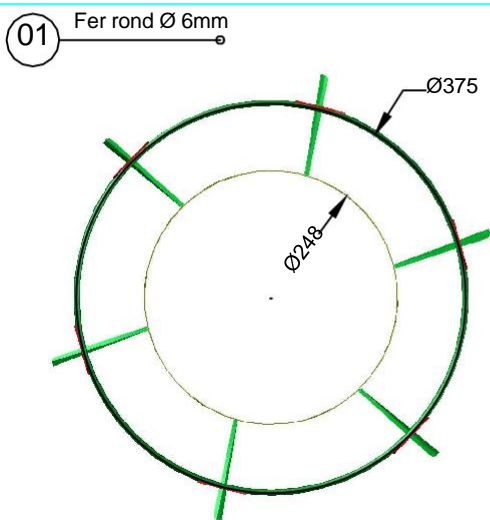
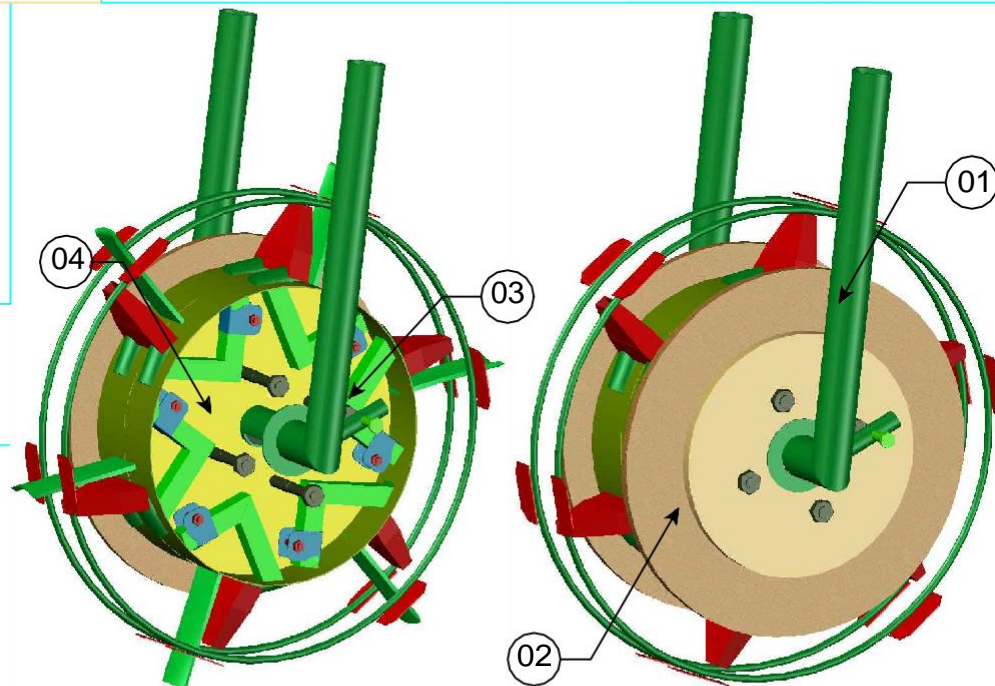
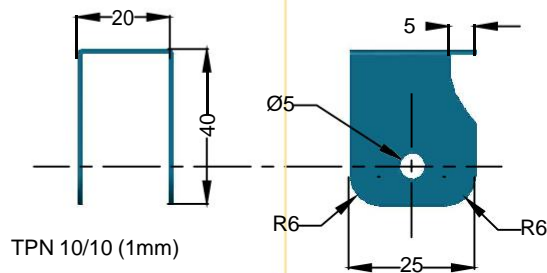
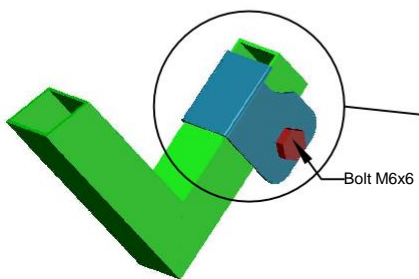
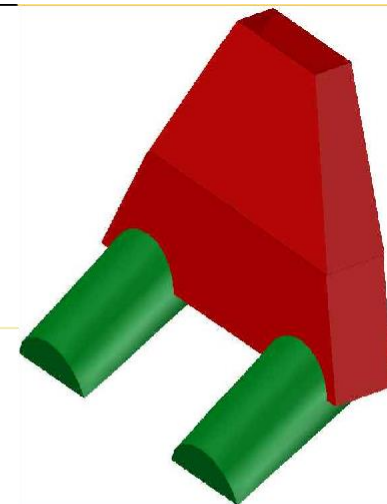
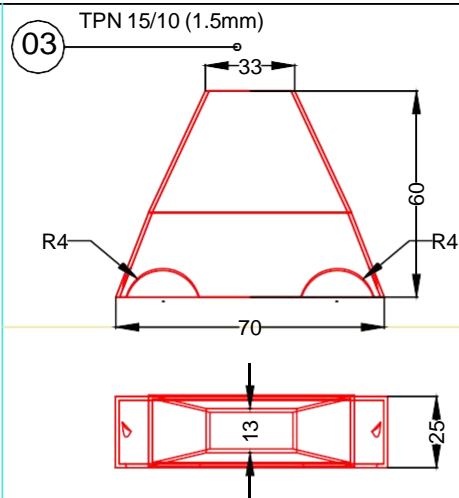
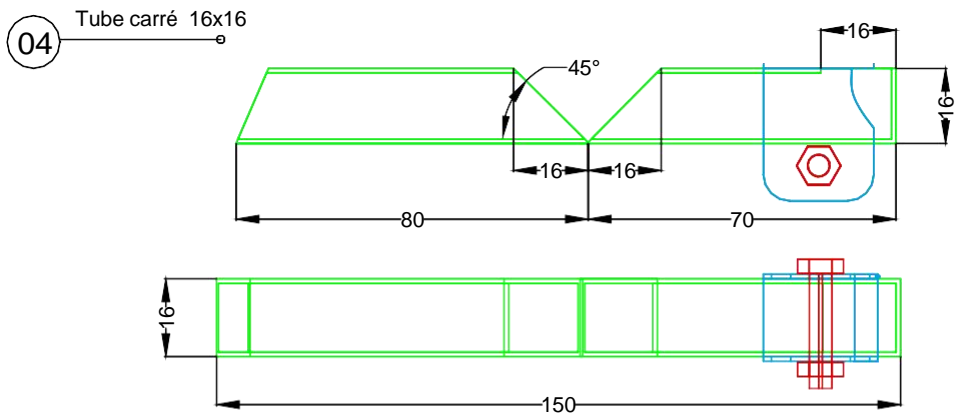
	Drawn	Mahefa Rasoloharison		Material	Weight (kg)
	Mail	maahefarivo@gmail.com	04/05/20		
Scale :		Name	Date	DRAWING N° : 005	

C- FERTISEEDER 1



FERTISEEDER

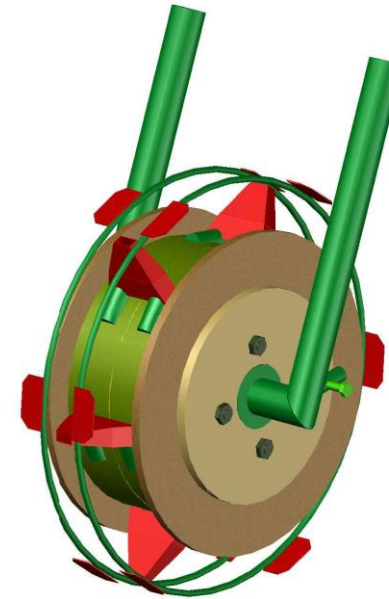
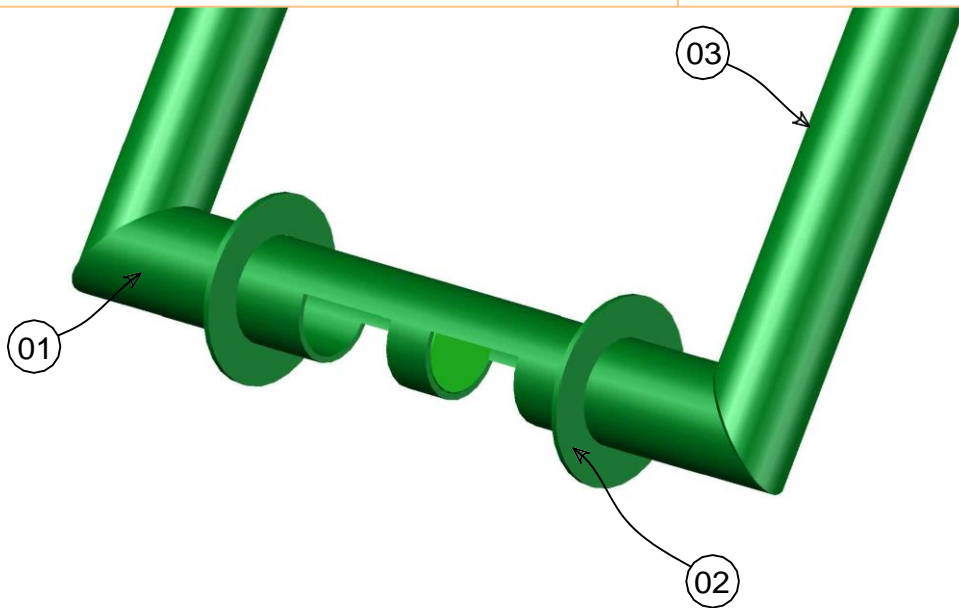
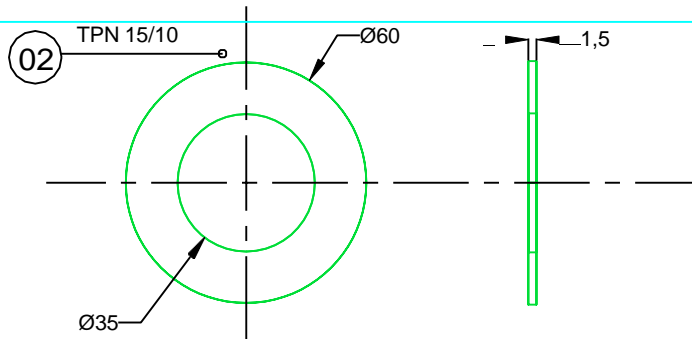
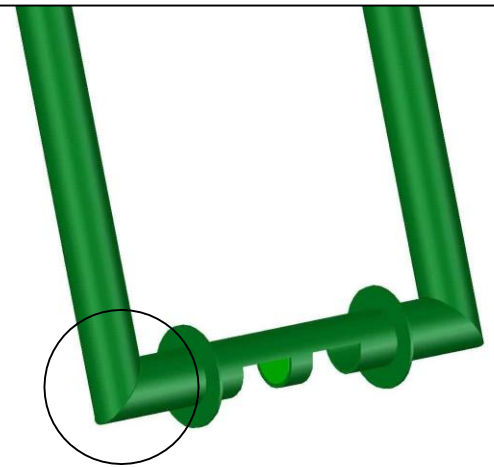
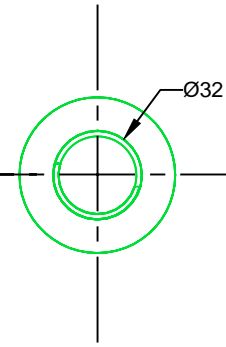
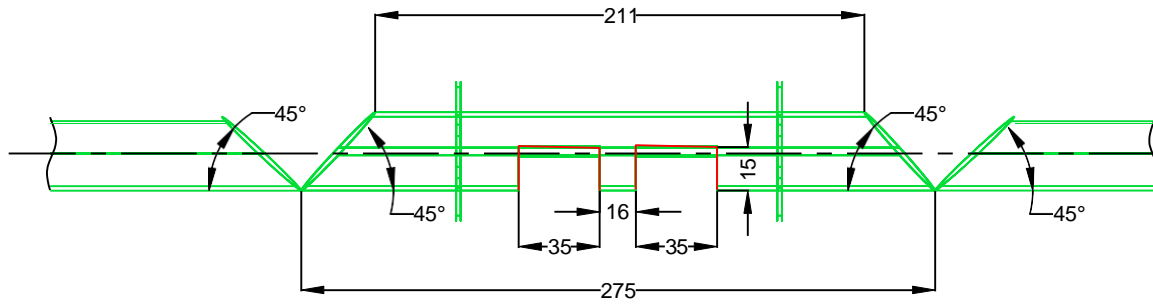
		FERTISEEDER		 AfricaRice	
	Drawn	Mahefa Rasoloharison		Material	Weight (kg)
	Mail	maahfarivo@gmail.com	04/05/20		
Scale :		Name	Date	DRAWING N° : 001	



	FERTISEEDER				
	Rolling injection seeder				
	Drawn	Mahefa Rasoloharison	04/05/20	Material	Weight (kg)
	Mail	maahefarivo@gmail.com			
Scale :		Name	Date	DRAWING N° : 002	

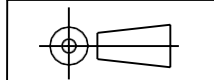
03 Tube rond 26/32

01 Tube rond 26/32



FERTISEEDER

Rolling injection seeder



Drawn

Mail

Mahefa Rasoloharison

maahefarivo@gmail.com

04/05/20

Material

Weight

(kg)

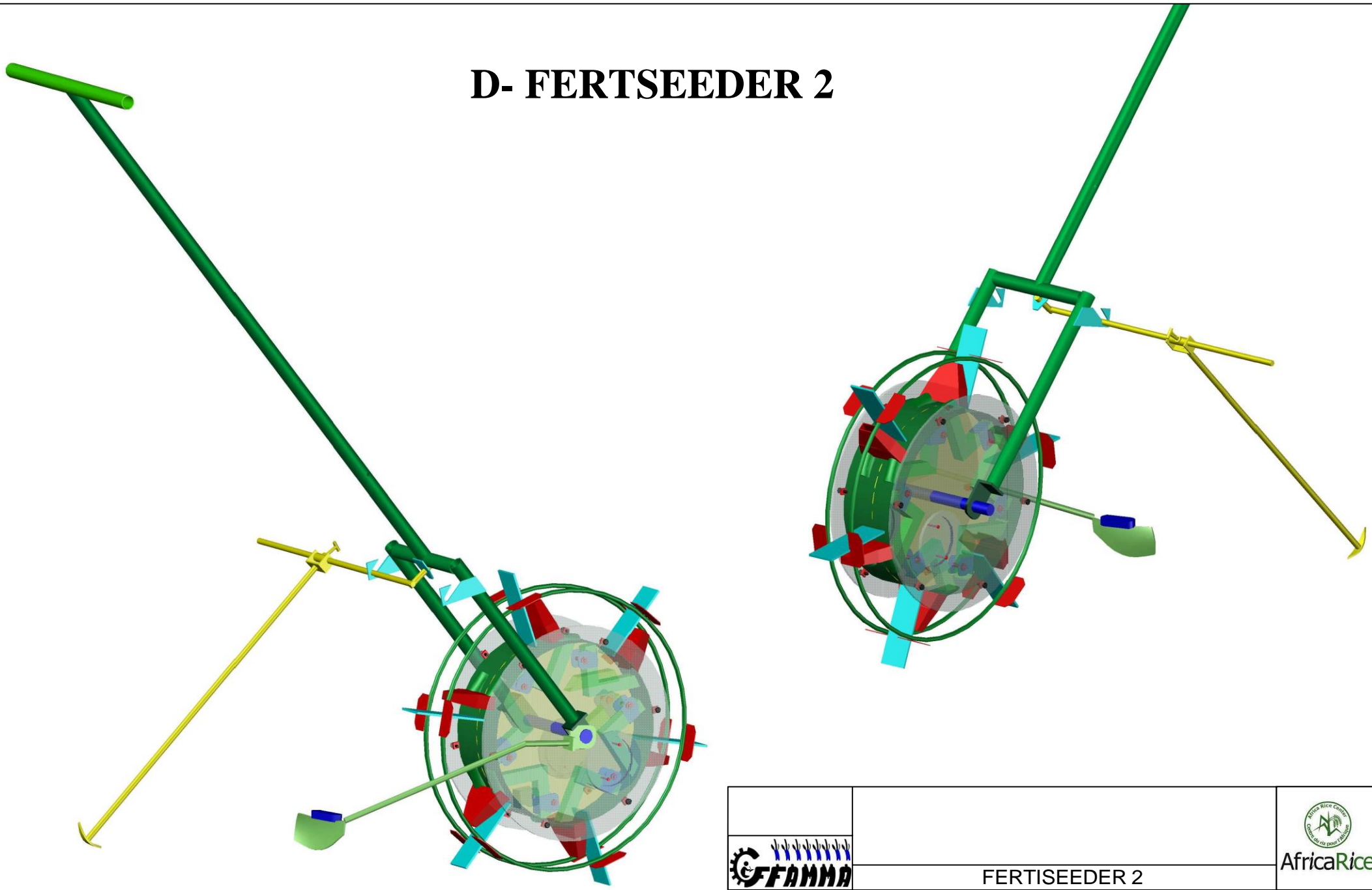
Scale :

Name



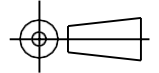
Date

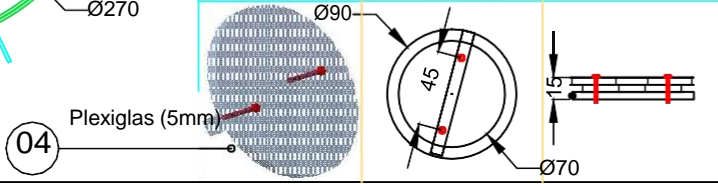
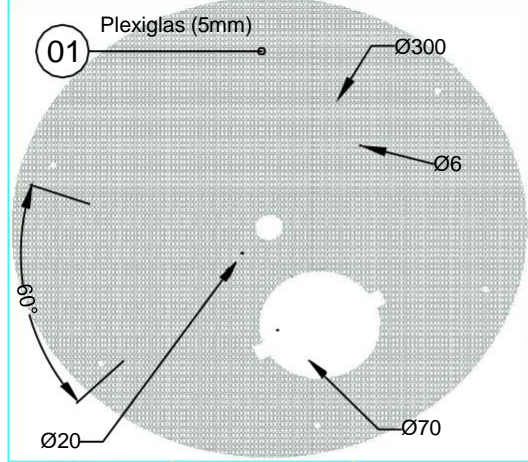
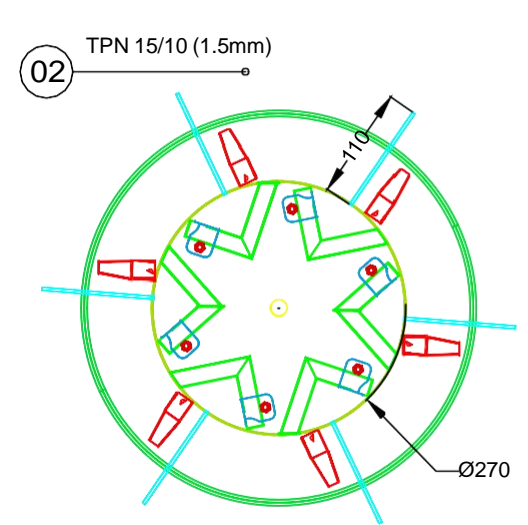
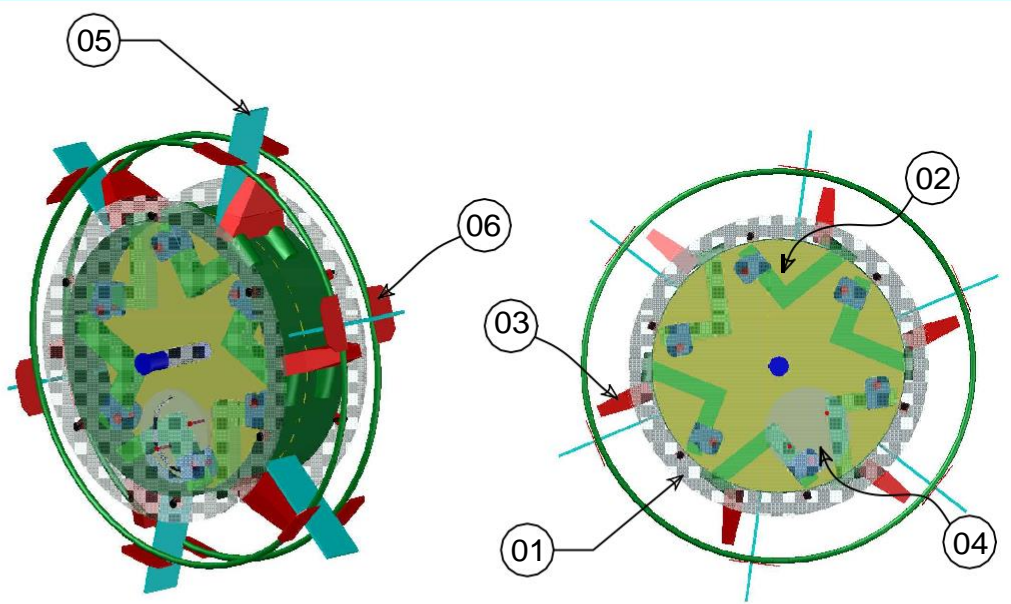
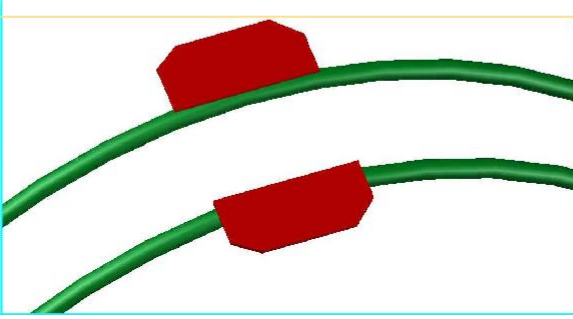
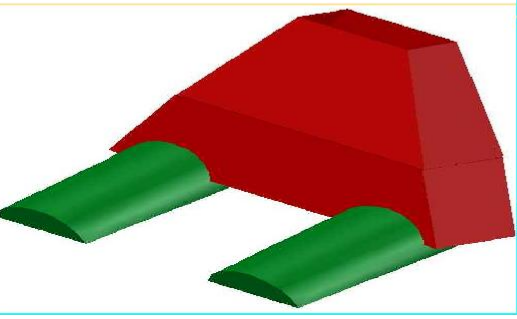
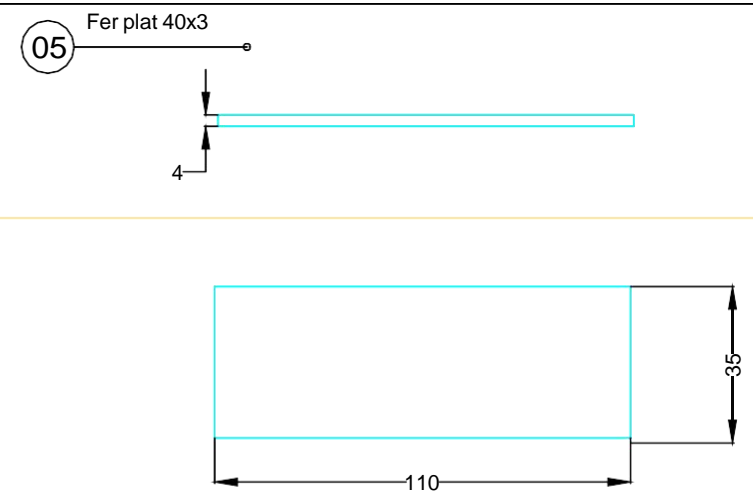
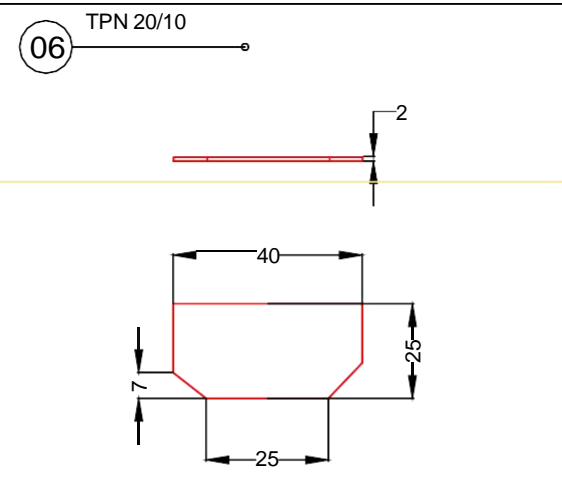
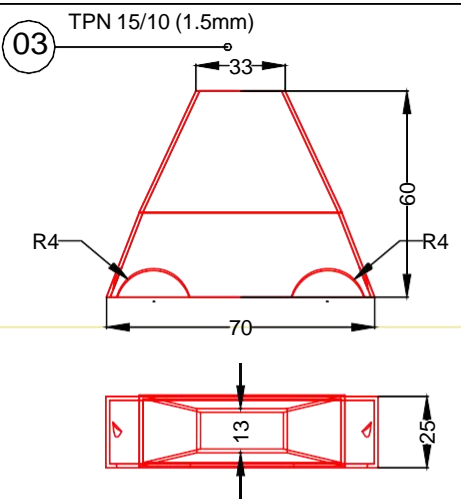
DRAWING N° : 003

D- FERTSEEDER 2

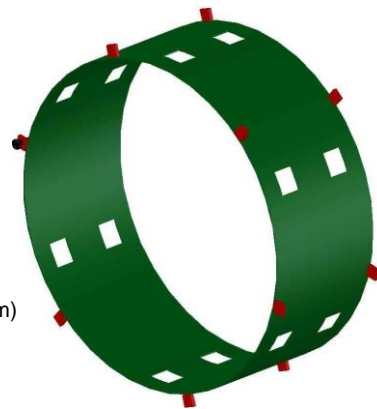
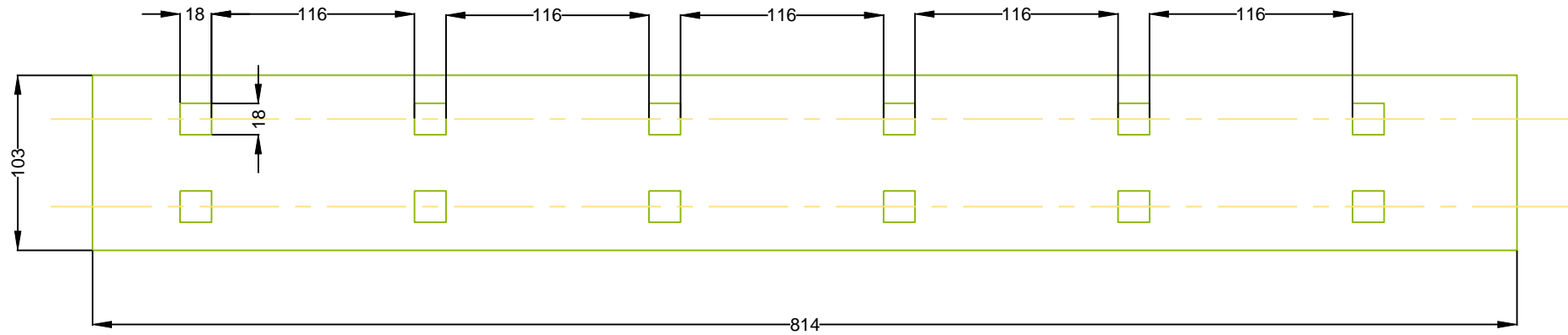


FERTISEEDER 2

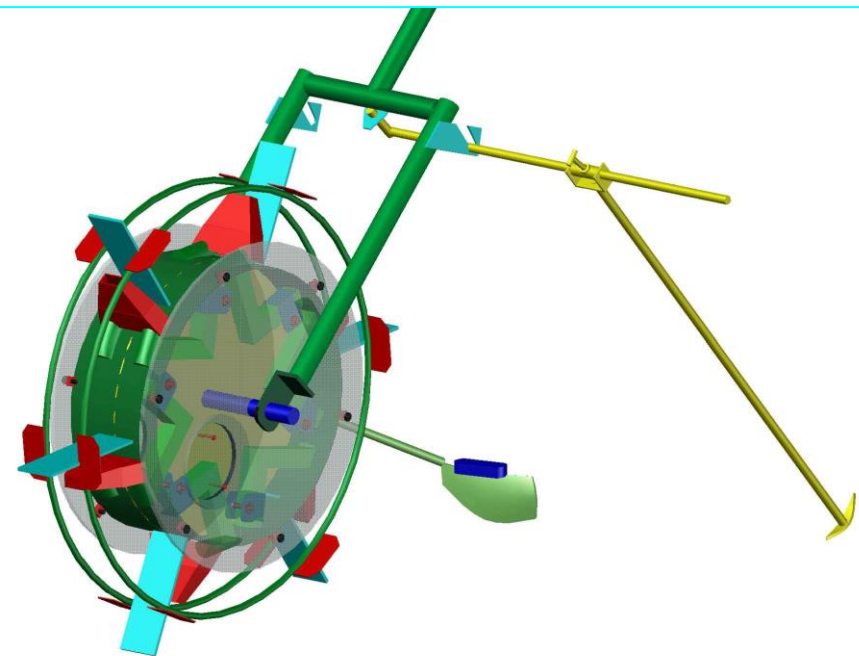
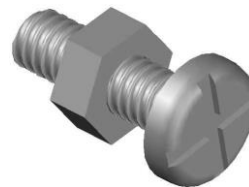
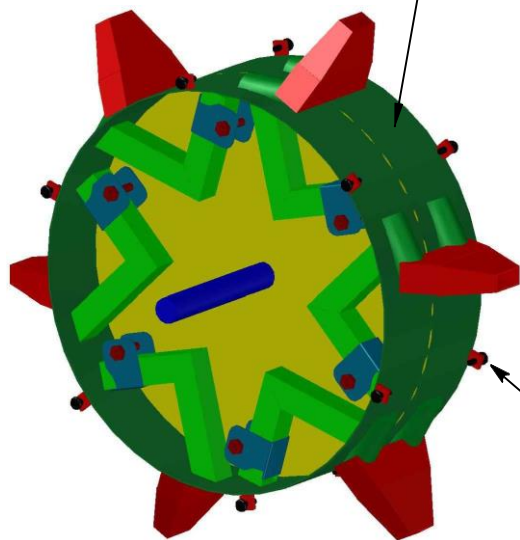
		FERTISEEDER 2		 AfricaRice	
 Scale :	Drawn	Mahefa Rasoloharison		Material	Weight (kg)
	Mail	maahefarivo@gmail.com	04/05/20		
		Name	Date	DRAWING N° : 001	



	FERTISEEDER 2				
	Drawn Mail	Mahefa Rasoloharison maahefarivo@gmail.com	04/05/20	Rolling injection seeder	
Scale :	Name	Date	Material	Weight (kg)	DRAWING N° : 002



TPN 15/10 (1.5mm)



FERTISEEDER 2



	Drawn	Mahefa Rasoloharison		Rolling injection seeder	
	Mail	maahefarivo@gmail.com	04/05/20	Material	Weight (kg)
Scale :				DRAWING N° : 003	
		Name	Date		