



Tamburlu Sulama Sistemleri | Hose Reel Irrigation Systems



HOSE REEL IRRIGATION MACHINE

SEZER AGRI TECHNOLOGIES

What is “Hose Reel Irrigation” System ?

- ▶ It is a modern, hard-hose reel type machine irrigation system which applies pumped water over a large area with the replaceable boom or gun carriage.

How it Works?



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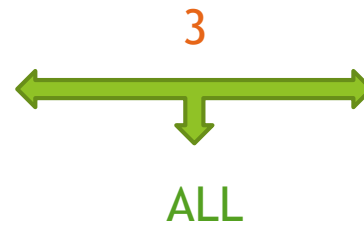
Irrigation Combinations with Hose Reel



Irrigation Boom
+ Carrier



Rain Gun
+ Carrier



Choice 1: Irrigation with Boom

- To irrigate with boom, the required entering pressure of the hose reel must be minimum 2 bar, but for a better irrigation higher pressure is wanted.
- The boom can water larger areas compared to the rain gun
- Completely galvanized construction



Choice 2: Irrigation with Rain Gun

- To irrigate with gun, the required entering pressure of the hose reel must be minimum 5 bar, but for a better irrigation higher pressure is wanted.
- Suitable for irrigating both regular and irregular areas.
- Compared to boom, can be more effected by wind.
- Completely galvanized construction



APPROACH TO SUSTAINABILITY

More than just an irrigation system...



Fertilizer / Pesticide Application
With Automatic Dosing Machine



Application of Liquid Fertilizer
With Rain Gun

Why should you use hose reel system ADVANTAGES...

- ▶ Low Labor
- ▶ Easy to operate
- ▶ High Distribution Uniformity
- ▶ Suitable for Irregular Areas (gun)
- ▶ Water Application over Large Area
- ▶ Wide Range of Depths
- ▶ Mobility-Easy Transfer
- ▶ Low Energy Consumption
- ▶ Reliable with Low Maintenance
- ▶ Long-Life



- ▶ LOW LABOR COST !
- ▶ USER FRIENDLY
- ▶ MOBILE

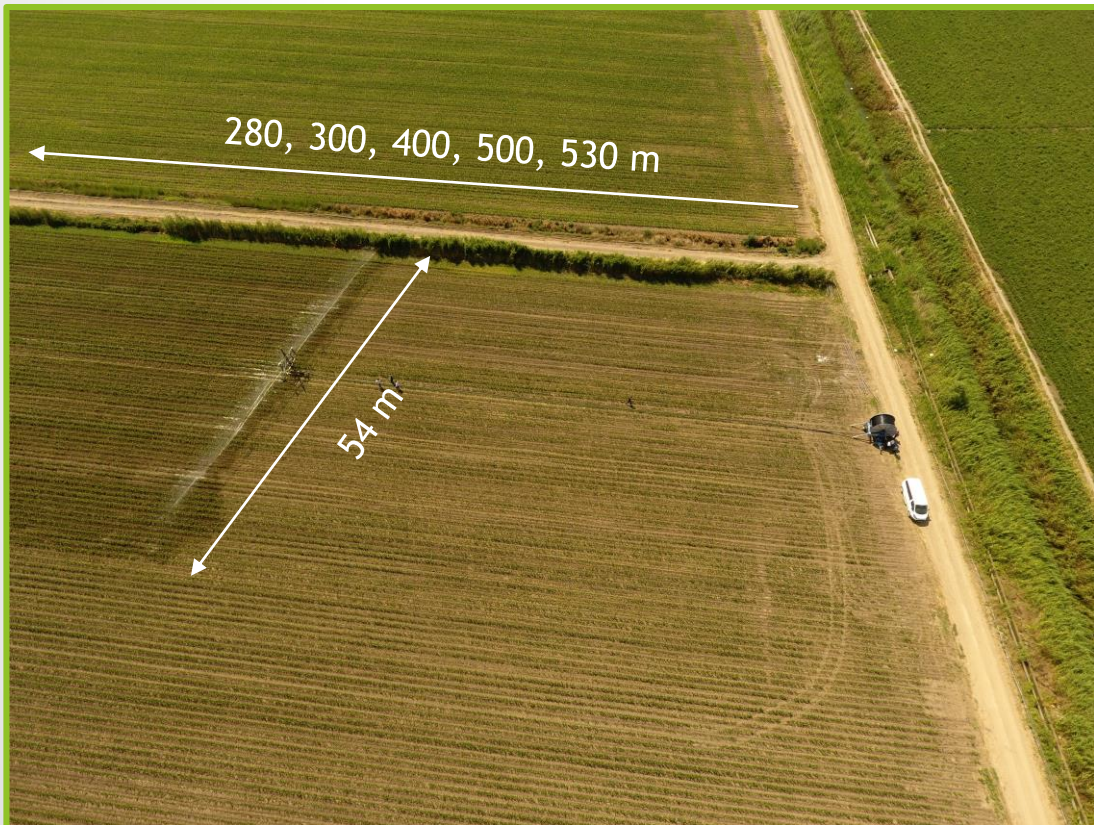
- More people needed
- Installation and operation requires high skills
- Shifting takes long time and effort
- Waste of equipment every year
- Fixed



- Only 1 person needed
- Very Easy installation and operation
- Ease of Shifting
- Easy maintenance
- Mobile



- ▶ HIGH DISTRIBUTION UNIFORMITY
- ▶ WATER APPLICATION OVER LARGE AREAS

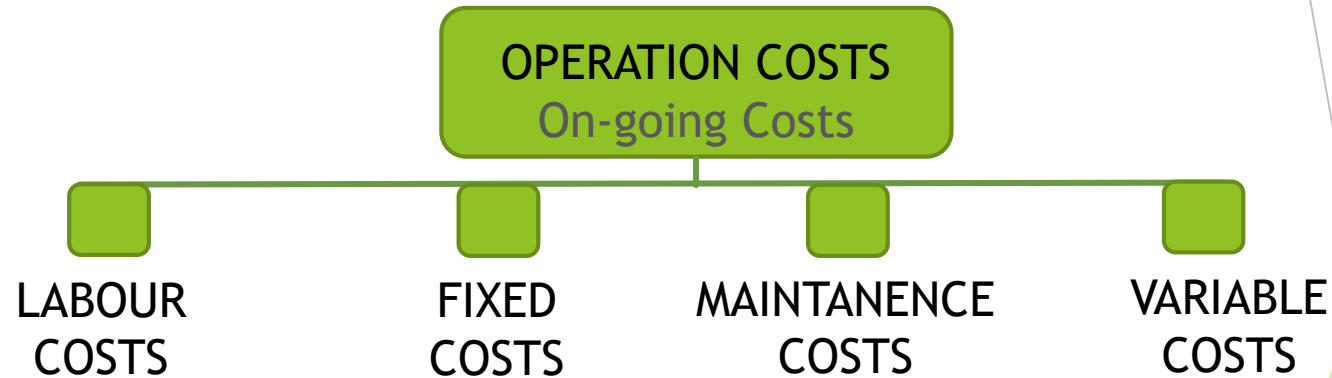


ECONOMIC FACTORS

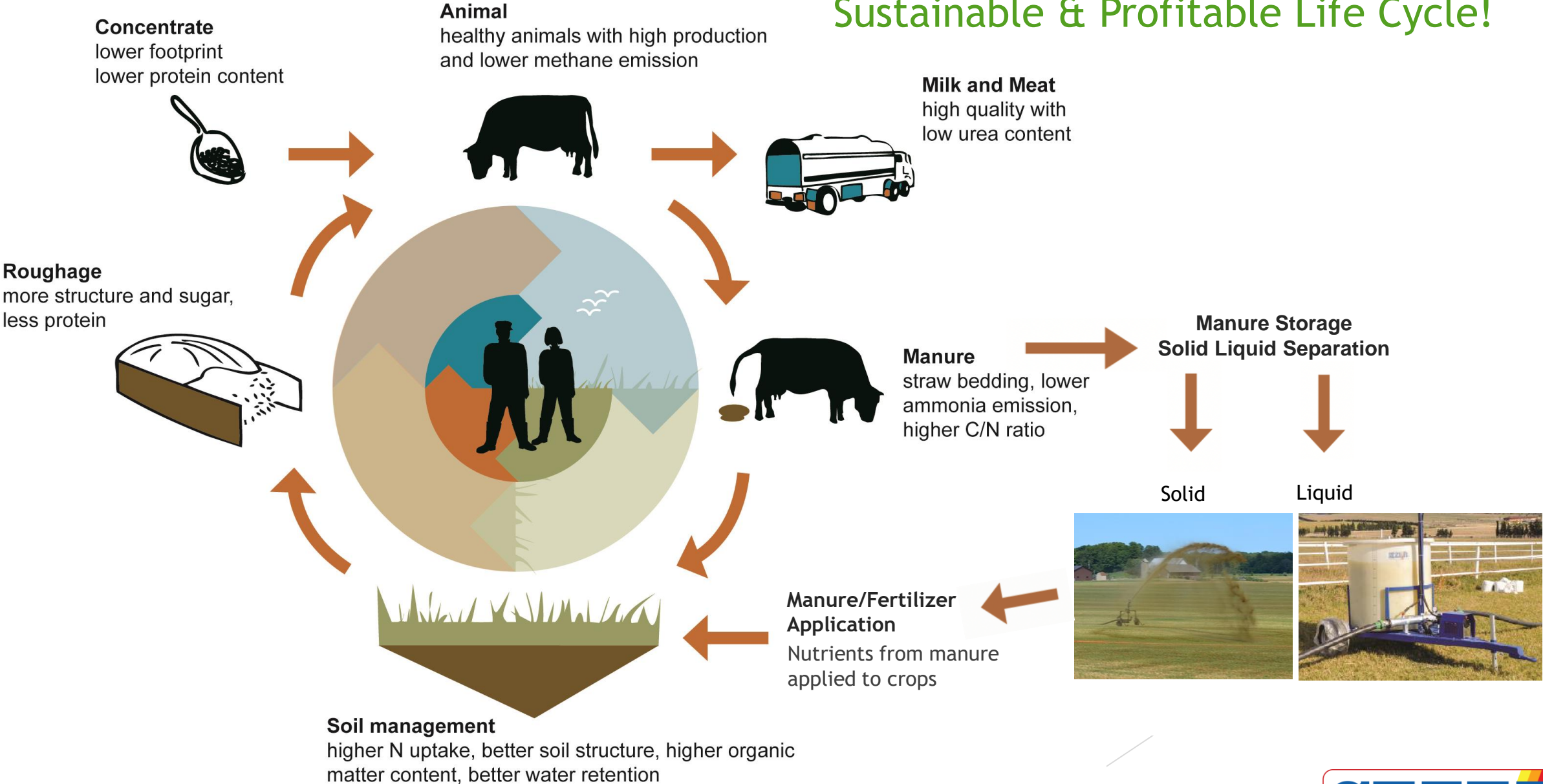
It is extremely important to consider not only initial capital investment but also on-going operating costs when buying an irrigation system and comparing one system with another.

CAPITAL INVESTMENT: The Cost of the System

- *Initial Investment*
- *Water supply,*
- *Wells*
- *Reticulation*
- *Pumps*
- *Mainlines*
- *Irrigation & Ancillary Equip.*



Sustainable & Profitable Life Cycle!

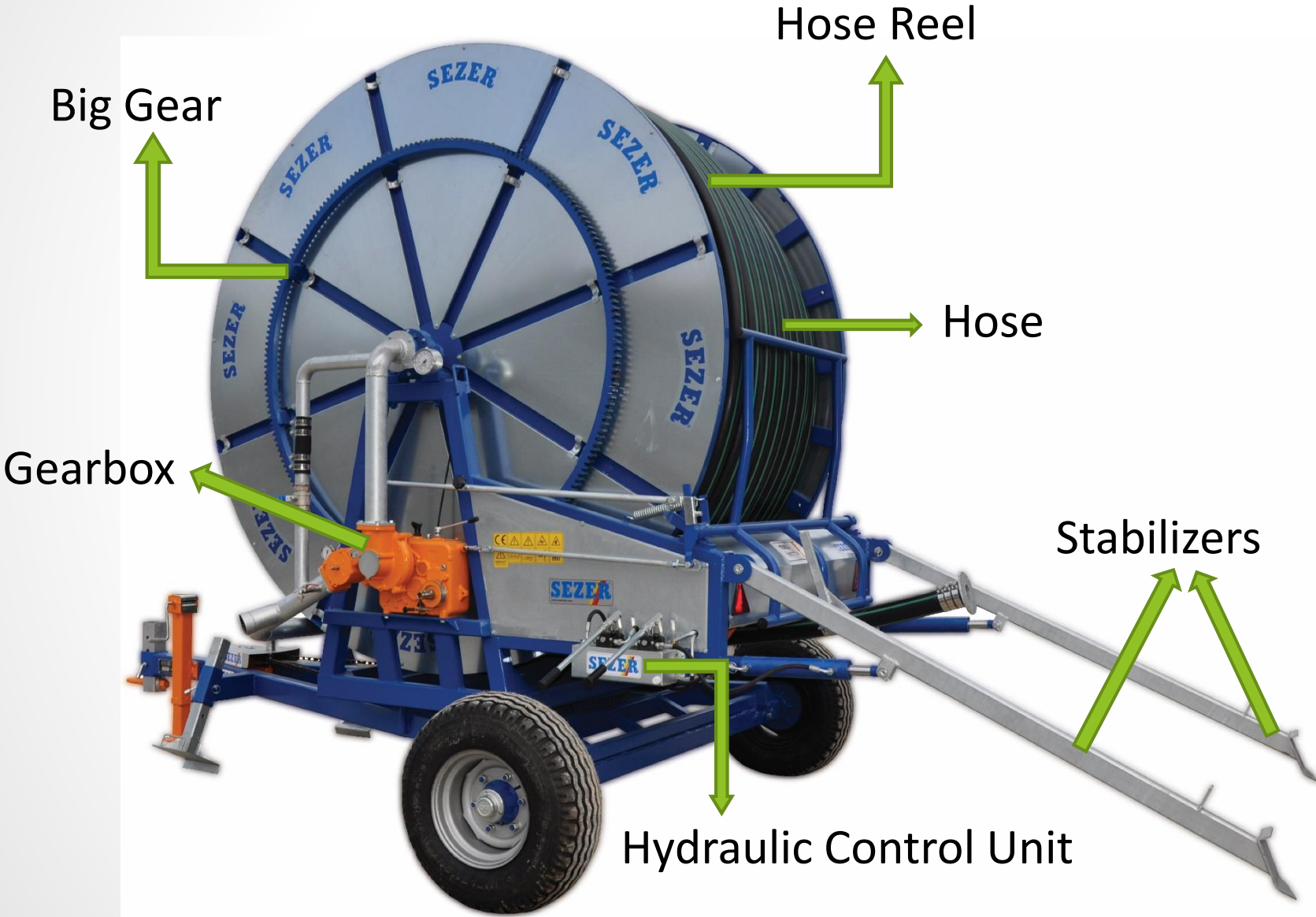


Which plants can you irrigate?

- GRAINS
- INDUSTRIAL PLANTS
- FOOTBALL FIELDS
- PASTURE-GRASS PRODUCTION
- FRUIT GARDENS
- VEGETABLES



MAIN COMPONENTS OF HOSE REEL MACHINE



IRRIGATION HOSE



- One piece hose made from raw polyethylene material
- 10 ATM, Highly resistance,
- Long-Life use

- The length and the diameter of the PE pipes so the model of the machine will be chosen depending on the field dimensions and required water amount.

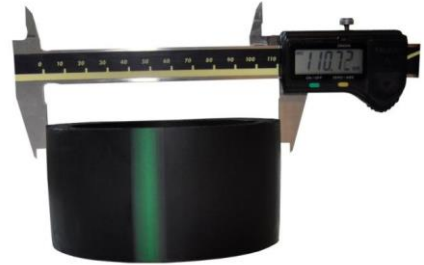
Outside Diameter

Inside Diameter

Thickness



Ø110



Ø90



Ø75



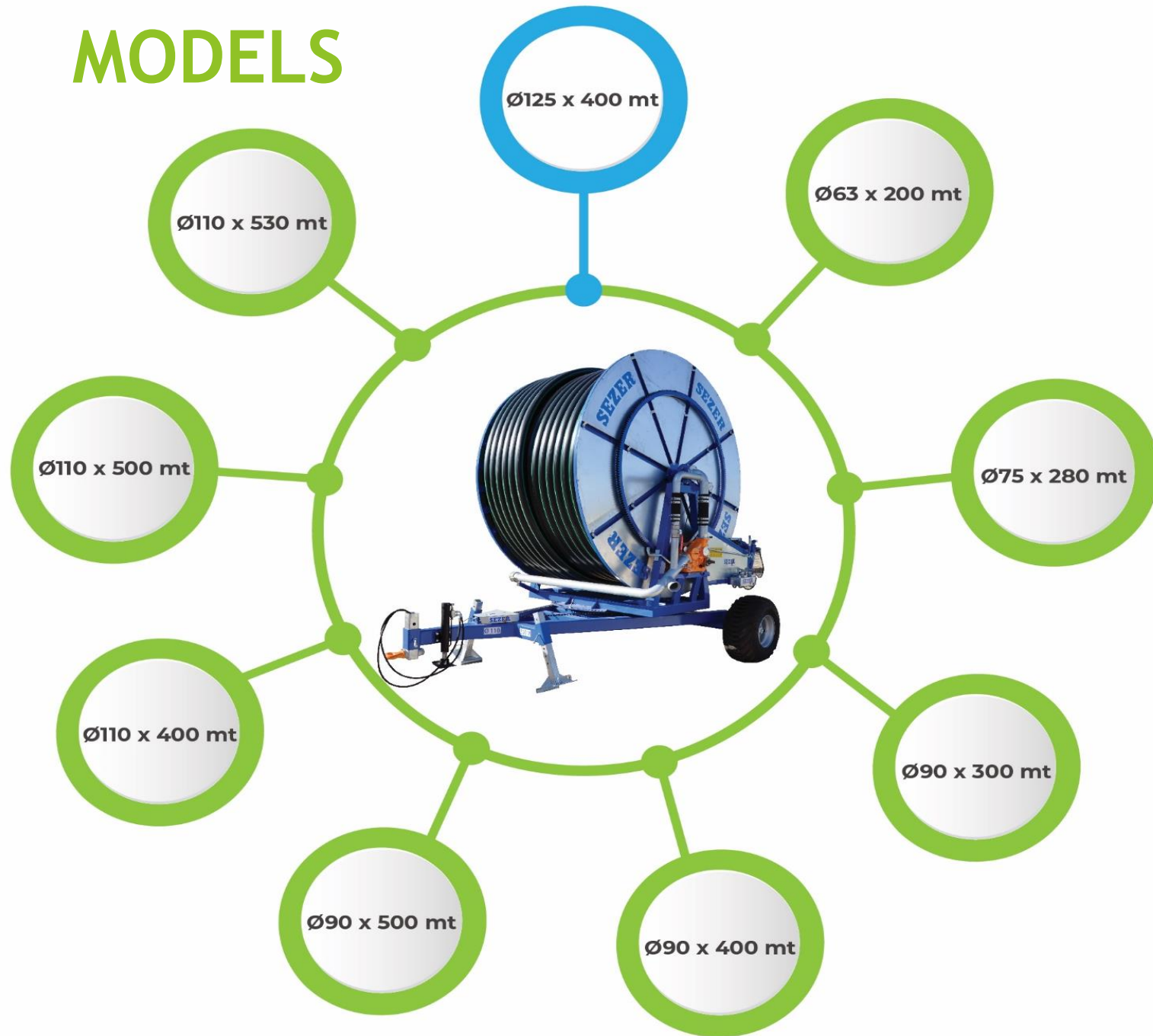
Ø63



Water quantity per hour

Pipe Diameter	WATER FLOW QUANTITY (flow rate)	
	Lt / Second	m ³ / Hour
2" - 63	5	17
2 ½" - 75	7	24
3" - 90	10	35-45
4" - 110	14	52-70
5" - 125	18	90-110

MODELS



ADJUSTABLE BOOM

Two boom alternatives according the boom length & carrier height



Figure: Type-3 Boom

TYPE-1K BOOM

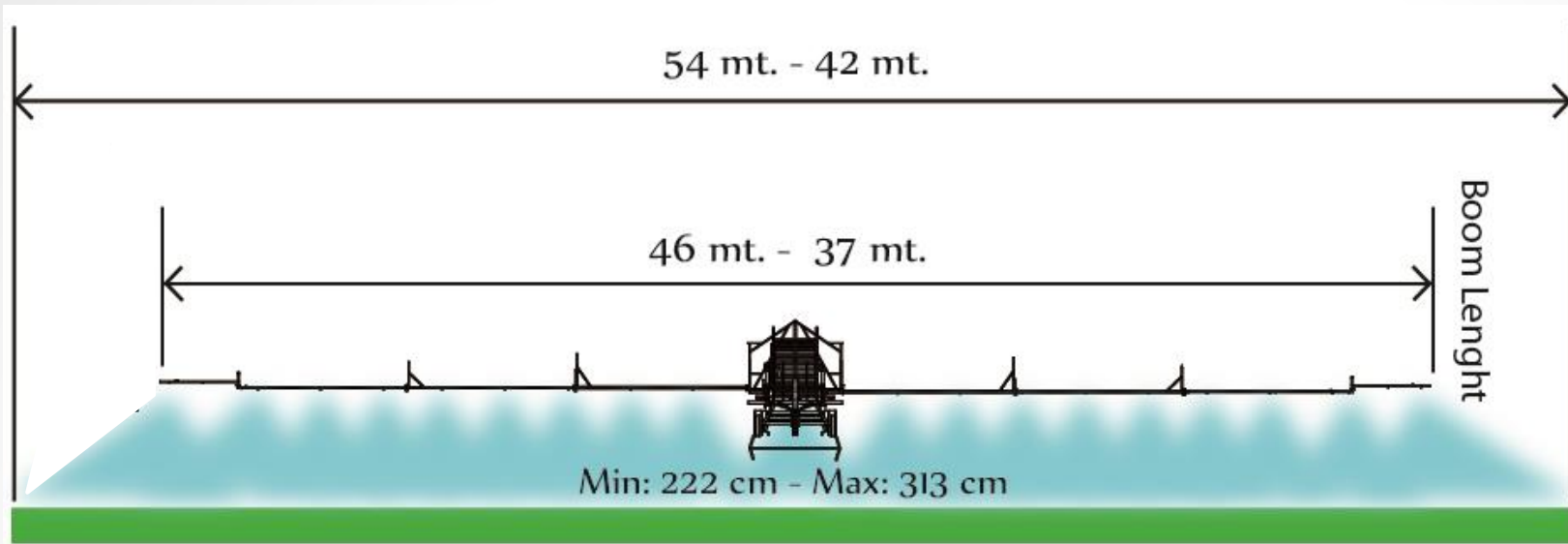
For 75 MODELS

- Consists of $2 \times 4 = 8$ parts.
- Length: 37 m, Irrigation: 42 m
- The end part can be closed (29 m)
- Can be folded easily

TYPE-3 BOOM

For 90, 110, 125 MODELS

- Consists of $2 \times 5 = 10$ parts.
- Length: 46 m, Irrigation: 54 m
- The end part can be closed (38 m)
- Can be folded easily



FOLDING



ON THE GO



MULTI-NOZZLES

35 irrigation nozzles on a **46mt** boom and

3 set of nozzles are send to customer as spare



4

5

6

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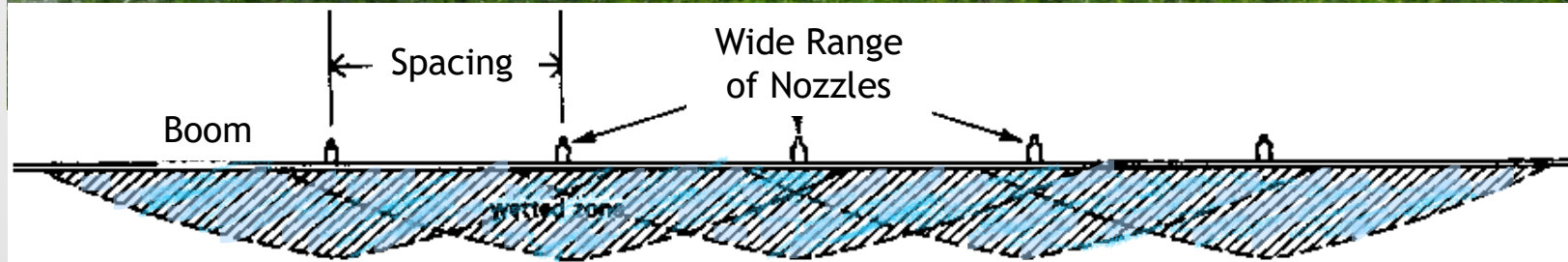
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10

6

MULTI-NOZZLES



ADJUSTABLE BOOM CARRIER



TYPE-1K BOOM

For 75 MODELS

- 3 Wheels Carrier w/ lifting jack
- Carrier Height: @ Lowest 1.15 m
Can be lifted up to max 1.55 m
- The distance between carrier wheels is adjustable

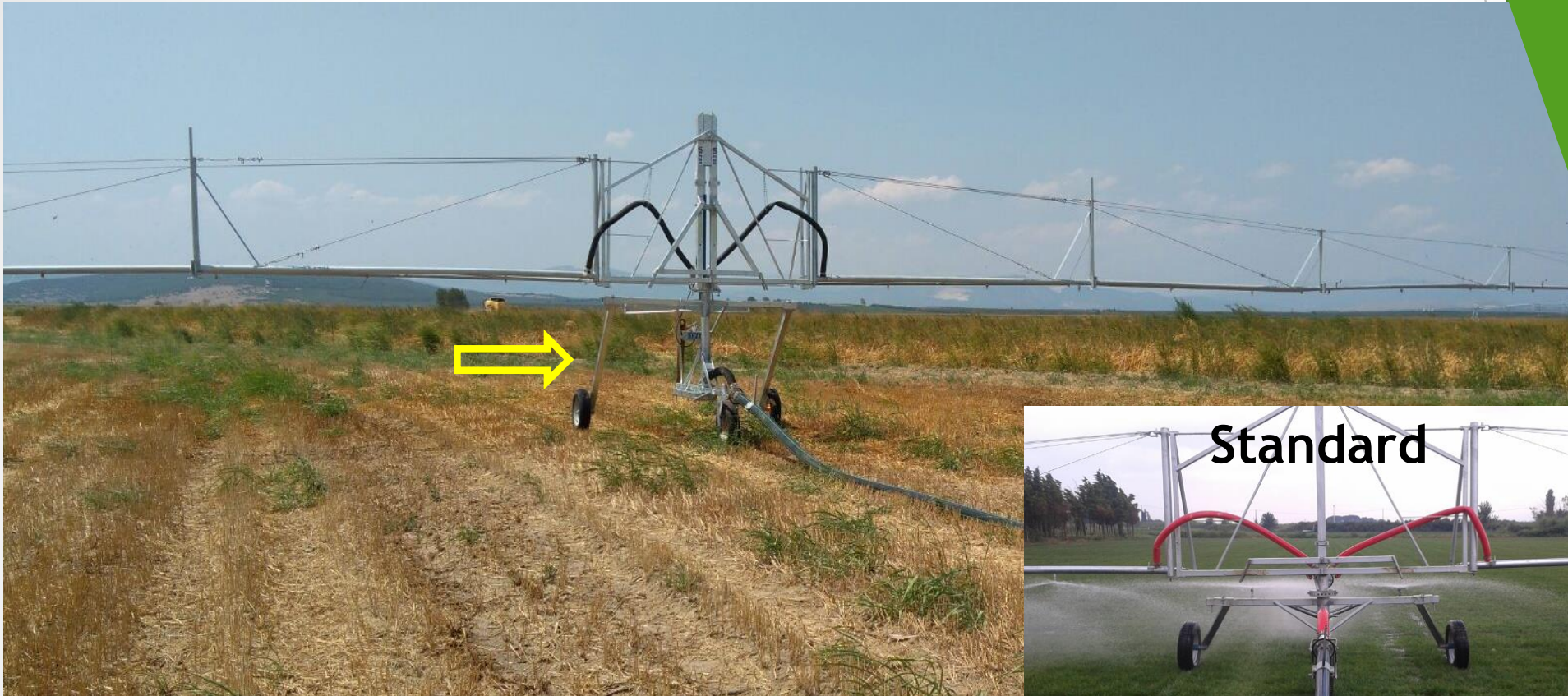


TYPE-3 BOOM

For 90, 110, 125 MODELS

- 3 Wheels Carrier w/ hydraulic piston
- Carrier Height: @ Lowest 1.15 m
Can be lifted up to max 3 m
- The distance between carrier wheels is adjustable

SPECIAL BOOM CARRIER



- Hose Reel Irrigation machine have special carrier accordingly request and plant type especially for specially plant with larger shank such as cotton etc.



Corn irrigation with 3 meter boom



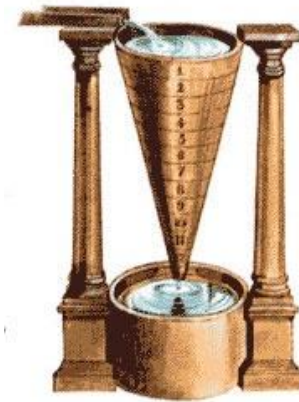
How much decare areas can be irrigated? *

- ▶ Boom Length: Min.46m, Max.54m
- ▶ Hose Length: Min.280m, Max.530m
- ▶ Irrigation Speed: Min.2m/h, Max.100m/h

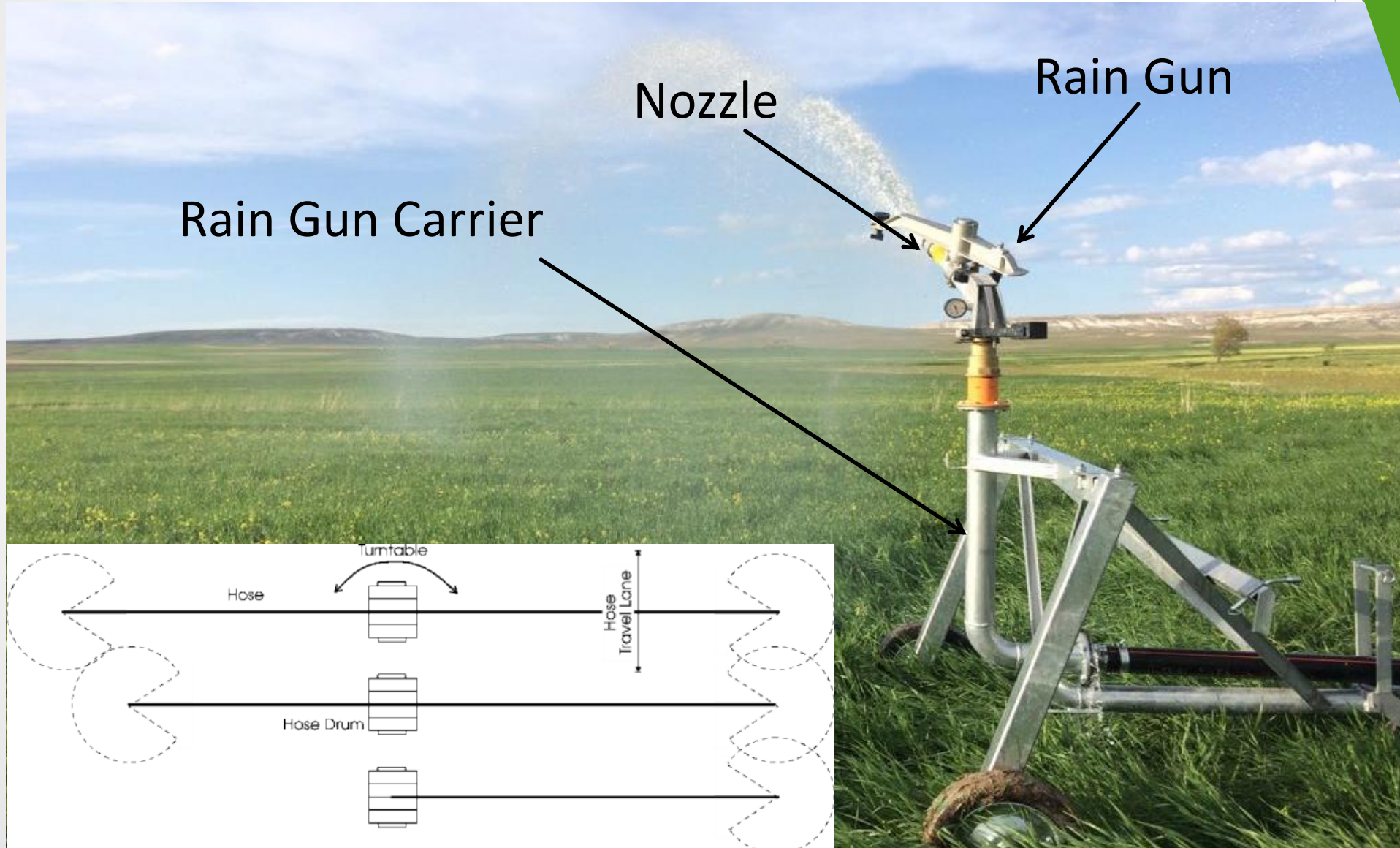
Irrigated area can change depending on the winding speed of the hose.

- Average irrigated area: 15 - 28 decares
- Average area per *day: 28 - 36 decares

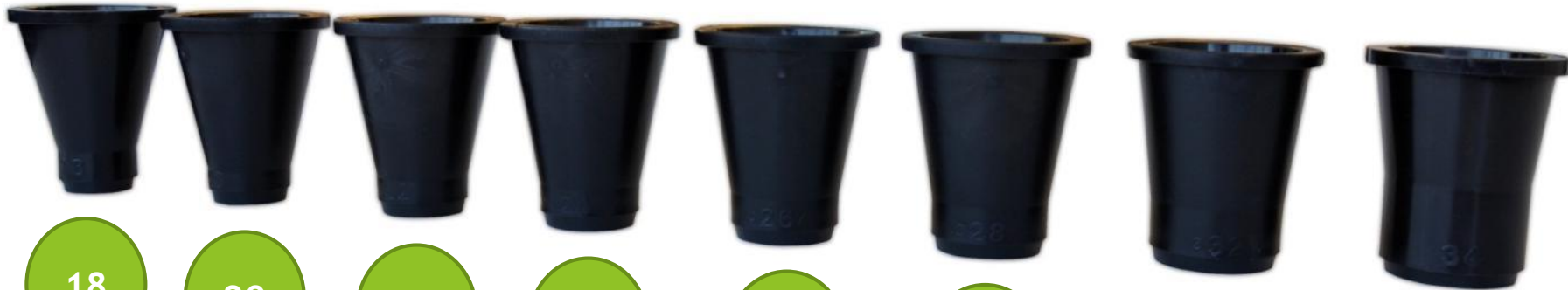
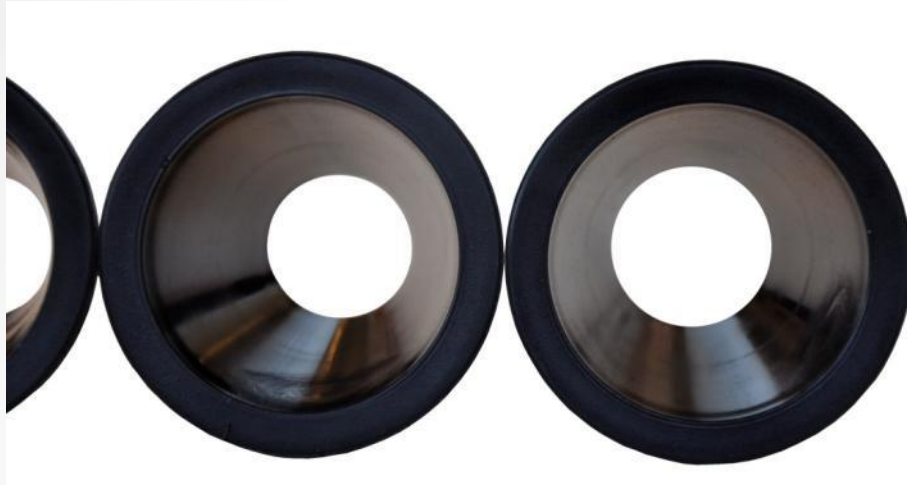
* 1 day is calculated as 22 hour and average speed is 30 mt./hour



RAIN GUN



Rain Gun - Nozzles



18

20

22

24

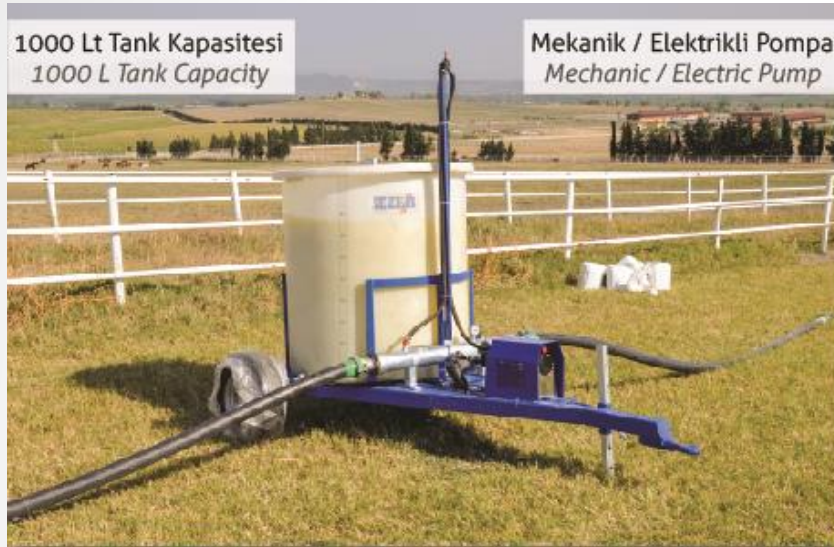
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Automatic Dosage Unit



User can spray or fertilize plants during irrigation with an optional mechanical and electrical automatic dosing machine that can be added and transported to the system

- For Maximum efficiency fertilizing and spraying is very important point
- Automatic Dosage Unit add automatically fertilize and spray with equal intervals per an hour between 20-500 lt.

Automatic Dosage Unit



Dosage Pump can be used with Drip and Rain Gun Irrigation System.

With this unit you can irrigate and give fertisation and disinfestation and protect plant from disease

Accordingly test on 2016 system working with %100 efficiency.

GEAR OPTIONS AND SPEED INFORMATION

- On Hose Reel Irrigation System have 4 shift to adjust speed.
- With shift and accelerate adjustment machine can work 2mt. Up to 100 Mt.

Gear and Speed Options



Shift 1	0-25 m./hour
Shift 2	25-35 m./hour between
Shift 3	35-50 m./hour between
Shift 4	50 m./hour and up

PROJECT DESIGN

To choose Hose Reel Irrigation Model following information are need;

- Soil structure,
- Field Dimensions,
- Water Source,
- Distance between water source to machine ,
- Water Pressure

PROJECT DESIGN



PROJECT DESIGN











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