The Li Seeder

Summary
The Li Seeder is a seeder that has the ability of planting single seeds per station in one operation. It was developed by China Agricultural University.

This practice describes the applications range of the Li Seeder, additionally to using instructions, and troubleshooting and maintenance recommendations.

Description
The 2BS-C manual seeder was developed by Lin Yingqing, the manager of Qingyuan Manchu Autonomous County Yunfan machinery manufacturing Co., Ltd. The seeder has been patented and received the registered trademark seal.

The seeder has the ability of planting single seeds per station in one operation.

1. Characteristics and applicability range
1.1 Applicable seeds varieties
- corn;
- bean;
- various grains;
- other crops.

1.2 Applicable plot
The seeder can be used on any plot in any conditions. This manual seeder is particularly suitable for sowing and fertilizing small plots, terraces, wasteland, no-till fields and fields covered with chopped residues. It is the ideal no-till seeding machine.

1.3 Features
The seeder can plant one or more seeds simultaneously. The operator can always directly check the sowing process at work. The fertilizer rate can be adjusted. Seed planting and fertilizing can be carried out separately, but in one operation. Seeds can be planted safely without being burned by the fertilizer.

The seeder can be operated conveniently and easily, can adapt to different sowing conditions including very dry conditions, it can help to save energy and improve water conservation.

1.4 Schematic diagram (main structure)
The structure of the seeder is shown in Figure 2.

1.5 Product instructions
1.5.1 Description
When operating, the manual seeder digs a hole...
into the ground. When the planter hits the soil, the seed metering mechanism is triggered, thus allowing seeds and fertilizer to enter into the soil. Seeding conditions can always be directly checked by the operator, who can then adjust the seeding parameters if needed.

1.5.2 Application
In order to seed, fill up the seed pipe with seeds and pour the fertilizer into the fertilizer bag. The exact process is as follows:
• lift the seeder half a meter, drop it so that the seeder creates a planting hole;
• lift the seeder again, the seed and fertilizer remain in the hole; the soil falls into the hole simultaneously for cover; and
• the operator steps forward in order to carry on seeding and, at the same time, press his foot firmly onto the planted soil.

1.5.3 Sowing rate adjustment
The model offers 12 different seed cups to suit different seed sizes and different sowing rates. Use round hole seed cups to plant only one seed at a time. Use large hole seed cups to plant several seeds simultaneously.

1.5.4 How to change the seed cups
Move the pendulum to the top locked point, take out the seed cup from the semicircle gaps and then introduce a different seed cup (see figure 1).

Note: sowing rate should be adjusted before seeding in accordance with the actual conditions.

1.5.5 Adjustment of the fertilizer rate:
Slide the fertilizer metering plate outside or inside to increase or decrease the fertilizer rate.

Note: Adjust the plate to a suitable fertilizer rate before seeding.

1.5.6 Adjustment of the seeding depth
The depth plate is made of two parts, both of which are screwed on each side of the seeder points, and they can be set at two different levels. The depth plate is normally used on soft fields, but generally removed in case of no tillage.

Each type of seed requires a unique sowing depth, a depth excessively shallow or too deep will prevent crop emergence.

2. Troubleshooting and operation basics
2.1 Seed and fertilizer do not enter into the soil, but lie scattered on the soil surface
To prevent soil from blocking the seeds or fertilizer tubes, the planter’s point(s) should be draw back about 2 cm while digging the point(s) in the soil during planting operations. Digging and drawing back form a continuous process, which cannot be interrupted and should be done all at the same time (similar to hoeing). The point should be drawn upwards, since removing
the point along the trajectory of the digging movement reversely would prevent the seed and fertilizer from entering into the soil and finally scatter them on the soil surface (Figure 3).

2.2 No seed in the seed-looking window
Use the seed-looking window to check the seeds during planting. If there is no seed in the window, push or pull the pendulum bob until seeds show up in the window and then carry on planting.

Figure 3. Troubleshooting and operation basics

3. Maintenance
1. Lubricate the axis of the pendulum bob with 1 to 2 drops of oil every two hours while operating.
2. The seed box and fertilizer box should be dry, and the surface of the pick should be clean.

4. Further reading
- Read the instruction manual carefully before use.
- For more detailed information please check the following website: http://www.qybzg.com.
- Video about how to operate the seeder: Enter “Manual Seeder” in Baidu or Google in the video section and you will be able to find the video about the manual seeder operating under different conditions.

5. Related/Associated Technologies
- Tropics, warm;
- Tropics, cool/cold/very cold;
- Subtropics, warm/mod cool;
- Subtropics, cool; and
- Temperate, cool.

6. Objectives fulfilled by the project
- Labour-saving technology (LST); and
- Resource use efficiency.