Patent Claims

1. Sowing method for discharging granular seed onto an underlying surface for seed, wherein seeds (K) which are present in a reservoir container (10) are removed from the reservoir container and separated, seed dressing is applied to the separated seeds (K) and the individual seeds (K) to which seed dressing has been applied are successively delivered onto the underlying surface (B) for seed, wherein the application of seed dressing to the separated seeds (K) takes place while the separated seeds (K) fall freely onto the underlying surface (B) for seed; and wherein after the seeds (K) have been separated they are allowed to fall past at least one sensor (32, 33) that detects each separated seed (K), and wherein an output from the at least one sensor (32, 33) is used to trigger application of seed dressing to the separated seed while it is falling freely onto the underlying surface (B).

2. Sowing method according to Claim 1, wherein application of seed dressing is by way of a triggerable application nozzle (34).

3. Sowing method according to Claim 1, wherein after the seeds (K) have been separated they are allowed to fall through a sensor shaft (31), wherein the passage of each separated seed (K) through the sensor shaft (31) is detected by at least one sensor (32, 33), and wherein a delay time (ti) is calculated, the delay time (ti) being the time taken for the seed (K) to arrives at an impact location (I), located along the fall line (f) of said seed (K), outside the sensor shaft (31), and in that the application of seed dressing to the seed (K) takes place at the impact location (I) in accordance with the calculated delay time (ti).

4. Sowing method according to Claim 3, wherein a triggerable application nozzle (34) is used to apply seed dressing to the seeds (K), which application nozzle (34) ejects, each time it is triggered, a defined quantity of seed dressing along a spraying trajectory (j), and in that the impact location (I) is defined as an intersection point between the fall line (f) of a seed (K) and the spraying trajectory (j) of the application nozzle (34).

5. Sowing method according to Claim 4, wherein the transverse position of each seed within the sensor shaft (31) is detected by at least one sensor (32, 33), and the impact location (I) is defined individually on the basis of the transverse position, and accordingly the delay time (ti) until the seed (K) arrives at the impact location (I) is calculated individually.

6. Sowing method according to Claim 4 or 5, wherein the application nozzle (34) is oriented such that its spraying trajectory (j) intersects the fall lines (f) of the seeds (K) at an acute angle (α) of preferably 30°-60°.

7. Sowing method according to one of the preceding claims, characterized in that two or more seed dressings are applied to the separated seeds (K) by means of two or more application nozzles (34, 36).

8. Sowing device for discharging granular seed onto an underlying surface for seed, having a reservoir container (10) for the granular seed, having a separating device (20) which is configured to separate seeds (K) fed from the reservoir container (10) and to output them individually, and having an application device (30) to apply seed dressing to the separated seeds (K), wherein the application device (30) is configured to apply seed dressing to the separated seeds (K) after they leave the separating device (20) while the separated seeds (K) fall freely onto the underlying surface (B) for seed and further comprising at least one sensor (32, 33) to detect each separated seed (K) output from the reservoir container, and a controller (35) to trigger the application device (30) to apply seed dressing on the basis of signals output by the at least one sensor (32, 33).

9. Sowing device according to Claim 8, wherein the application device (30) is configured as a structurally independent unit and is arranged underneath the separating device (20) in a falling path of the separated seeds (K).

10. Sowing device according to Claims 8 or 9, wherein the application device (30) comprises a triggerable application nozzle (34).

11. Sowing device according to Claim 8, wherein the application device (30) comprises a valve operatively controlled by the controller (35).

12. Sowing device according to Claim 8 or 9, wherein the application device (30) has a sensor shaft (31) which is open at both ends, and wherein the application device (30) is arranged in such a way that the separated seeds (K) fall through the sensor shaft (31) on their path from the separating device (20) to the underlying surface (B) for seed.

13. Sowing device according to Claim 12, wherein at least one sensor (32, 33) for detecting the passage of a seed (K) through the sensor shaft (31) is arranged in the sensor shaft (31), wherein the application device (30) has an application nozzle (34) for the seed dressing, which application nozzle (34) is configured to apply a defined quantity of seed dressing to a seed (K) which has fallen through the sensor shaft (31), once the seed (K) is outside the sensor shaft, wherein the application device (30) has a controller (35) which cooperates with the at least one sensor (32, 33), which controller (35) brings about the triggering of the application nozzle (34) in accordance with sensor signals generated by the at least one sensor (32, 33), in order to apply seed dressing to the seed (K).

14. Sowing device according to Claim 13, wherein at least two sensors (32, 33) for detecting the passage of a seed (K) through the sensor shaft (31) are arranged one after the other along the sensor shaft (31), in the falling direction of the seeds, wherein the controller (35) is configured to calculate, on the basis of the sensor signals of the at least two sensors (32, 33), a time delay (ti) after which it brings about the triggering of the application nozzle (34).

15. Sowing device according to Claim 14, wherein the application nozzle (34) is configured to eject, each time it is triggered, a defined quantity of seed dressing along a spraying trajectory (j), wherein the controller (35) is configured to calculate the position of an impact location (I) at which the spraying trajectory (j) and the fall line (f) of the seed (K) to which seed dressing is applied intersect, and wherein the controller (35) is configured to calculates the time delay (ti) on the basis of the position of the impact location (I) and the rate of fall of the seed (K).

16. Sowing device according to Claim 15, wherein the application nozzle (34) is oriented such that its spraying trajectory (j) intersects the fall lines (f) of the seeds (K) at an acute angle (α) of preferably 30°-60°.

17. Sowing device according to Claim 15 or 16, wherein a plurality of sensors (32, 33), which detect the transverse position of the seeds (K) within the sensor shaft (31), are arranged in the sensor shaft (31), and wherein the controller (35) is configured to calculate individually the time delay (ti) for each seed (K) taking into account the transverse position of the seed (K).

18. Sowing device according to any one of Claims 8 to 17, wherein the application device (30) has two or more application nozzles (34, 36), by means of which two or more seed dressings can be applied to the separated seeds (K).

19. Application device for use in a sowing device for discharging granular seed onto an underlying surface for seed, wherein the application device is configured to apply seed dressing to separated seeds (K) during a falling movement of the seeds.

20. Application device according to Claim 19, wherein the application device is embodied according to any one of Claims 12 to 18.

21. A computer-readable storage medium comprising instructions which, when executed by a computer, cause the computer to carry out the steps of the method of any one of Claims 1 to 7.