CLAIMS

1. A notably basic mineral enriching agent containing as a base a mineral carbonate characterised in that it contains at least one "dynamic disintegration" agent, capable of causing in the granule bursting, a great fragmentation, a dispersal, or a great "dispersal", i.e. implying a force within and/or on the surface of the granule, tending to cause the granule to burst or "explode" when the said granule is in contact with water and/or moisture, and notably with the ground, and more specifically the ground water or moisture.

2. A mineral enriching agent according to claim 1, characterised in that the said carbonate is natural or precipitated calcium carbonate (PCC).

3. A mineral enriching agent according to claim 1 or 2, characterised in that the said dynamic disintegration is technically adapted to form ground covers which may reach 2 to 3 cm in diameter for a granule of standard size of 2 to 5 mm thick, and in that the said granule takes the form of a more or less regular polygon.

4. A mineral enriching agent according to claim 1 or 2 or 3, characterised in that the said dynamic disintegration agent is chosen from among the weak acids such as formic or citric acid or, less preferentially, phosphoric acid.

5. A mineral enriching agent according to claim 1 or 2 or 3, characterised in that the said dynamic disintegration agent is an anionic super-absorbent polymer of the cross-linked copolymer of potassium acrylamide and acrylate type, which is not water-soluble.

6. A mineral enriching agent according to any one of claims 1 to 5, characterised in that the said dynamic disintegration agent consists of, or contains, a moderately swelling product.

7. A mineral enriching agent according to any one of claims 1 to 6, characterised in that the said moderately swelling product is chosen from among the swelling clays.

8. A mineral enriching agent according to claim 7, characterised in that the said swelling clay is a bentonite.

9. A mineral enriching agent according to claim 8, characterised in that the said bentonite is a clay belonging to the family of smectites, with the appearance of a light powder, with a 14% maximum water content, and with a 30% maximum overtail with a 75-micron sieve (dry testing) and a specific weight of 2.3 g/cm^3.

10. A granulated mineral enriching agent with dynamic disintegration according to any one of claims 6 to 9, characterised in that 0.5 - 0.7 to 6 - 7% by dry weight mass of the material to be granulated of the said moderately swelling product or of the said swelling clay is incorporated in the granule, or of the said bentonite, preferably 1 to 6 - 7%, and even more preferably 1 to 5, preferentially around 2, 3 and 4%, or better still 2%, by dry weight mass.

11. A method for manufacturing the granulated enriching agent with dynamic disintegration according to any one of claims 1 to 10, characterised in that a conventional granulation is accomplished by addition and incorporation of molasses, and dry blending of the enriching agent and of the dynamic disintegration agent which consists of, or contains:

a moderately swelling product, notably a swelling clay, notably a bentonite, at a rate of 0.5 - 0.7 to 6 - 7%, preferably 1 to 6 - 7%, even more preferably 1 to 5, preferentially around 2, 3 and 4%, and better still 2%, by dry weight mass of the material to be granulated, and high-speed stirring, followed by passing between two compacting rollers to form a continuous plate, a sort of "carpet" approximately 2 to 3 mm thick, which is then broken up to form polygonal granules which will then be eroded and screened before constituting the definitive granule, in the form of more or less regular polygons.

12. A mineral enriching agent according to any one of claims 1 to 10, or Method according to claim 11, characterised in that the calcium carbonate is wholly or partly replaced by one or more other minerals such as dolomites, natural phosphates blended with the enriching agent, ammonia nitrogenous fertilisers or other fertilisers, or their blends.

13. Application of the enriching agents according to claim 12 in the sectors of fertilising materials, more specifically enriching agents and fertilisers of use in all fields of agriculture in general, such as cereal and fodder agriculture, large crops, oil crops, protein crops, up to and including all related fields, such as forestry, forest crops in general, nurseries, production of vegetables and leguminous plants, and all other types of agriculture, including meadows, biomass crops intended for energy generation, plant cover crops for environmental purposes and domestic or leisure uses on turf or planted terrain.

CLAIMS

1. A notably basic mineral enriching agent containing as a base a mineral carbonate characterised in that it is compacted before spreading and that it contains at least one "dynamic disintegration" agent selected from moderately swelling products such as a swelling clay, capable of causing in the granule bursting, a great fragmentation, a dispersal, or a great "dispersal", i.e. implying a force within and/or on the surface of the granule, tending to cause the granule to burst or "explode" when the said granule is in contact with water and/or moisture, and notably with the ground, and more specifically the ground water or moisture, and that the said dynamic disintegration agent is incorporated from 0.5 - 0.7 to 6 - 7% by dry weight mass of the material to be granulated of the said moderately swelling product or of the said swelling clay in the granule, preferably 1 to 6 - 7%, and even more preferably 1 to 5, preferentially around 2, 3 and 4%, or better still 2%, by dry weight mass.

2. A mineral enriching agent according to claim 1, characterised in that the said carbonate is natural or precipitated calcium carbonate (PCC).

3. A mineral enriching agent according to claim 1 or 2, characterised in that the said dynamic disintegration is technically adapted to form ground covers which may reach 2 to 5 cm in diameter for a granule of standard size of 2 to 5 mm thick, and in that the said granule takes the form of a more or less regular polygon.

4. A mineral enriching agent according to claim 1 or 2 or 3, characterised in that the said dynamic disintegration agent is chosen from among the weak acids such as formic or citric acid or, less preferentially, phosphoric acid.

5. A mineral enriching agent according to claim 1 or 2 or 3, characterised in that the said dynamic disintegration agent is an anionic super-absorbent polymer of the cross-linked copolymer of potassium acrylamide and acrylate type, which is not water-soluble.

6. A mineral enriching agent according to claim 1, characterised in that the said swelling clay is a bentonite.

7. A mineral enriching agent according to claim 6, characterised in that the said bentonite is a clay belonging to the family of smectites, with the appearance of a light powder, with a 14% maximum water content, and with a 30% maximum overtail with a 75-micron sieve (dry testing) and a specific weight of 2.3 g/cm^3.

8. A method for manufacturing the granulated enriching agent with dynamic disintegration according to any one of claims 1 to 7, characterised in that a conventional granulation is accomplished by addition and incorporation of molasses, and dry blending of the enriching agent and of the dynamic disintegration agent which consists of, or contains:

a moderately swelling product, notably a swelling clay, notably a bentonite, at a rate of 0.5 - 0.7 to 6 - 7%, preferably 1 to 6 - 7%, even more preferably 1 to 5, preferentially around 2, 3 and 4%, and better still 2%, by dry

weight mass of the material to be granulated, and high-speed stirring, followed by passing between two compacting rollers to form a continuous plate, a sort of "carpet" approximately 2 to 3 mm thick, which is then broken up to form polygonal granules which will then be eroded and screened before constituting the definitive granule, in the form of more or less regular polygons.

9. A mineral enriching agent according to any one of claims 1 to 7, or Method according to claim 8, characterised in that the calcium carbonate is wholly or partly replaced by one or more other minerals such as dolomites, natural phosphates blended with the enriching agent, ammonia nitrogenous fertilisers or other fertilisers, or their blends.

10. Application of the enriching agents according to claim 9 in the sectors of fertilising materials, more specifically enriching agents and fertilisers of use in all fields of agriculture in general, such as cereal and fodder agriculture, large crops, oil crops, protein crops, up to and including all related fields, such as forestry, forest crops in general, nurseries, production of vegetables and leguminous plants, and all other types of agriculture, including meadows, biomass crops intended for energy generation, plant cover crops for environmental purposes and domestic or leisure uses on turf or planted terrain.