



## MARKET ANALYSIS REPORT

Market analysis report

### SHORT SUMMARY FOR PRACTITIONERS

EN version

The benefits and risks of the RUSTICA technology integration to make and apply RUSTICA bio-based fertilisers (RBBFs) will be evaluated against the background of the conditions in the 5 RUSTICA regions: Flanders, Pays de la Loire, Almeria, Friuli-Venezia Giulia and Valle del Cauca. This analysis gives an insight in the state-of-the-art of by-product availability and fertiliser use. The regional fact sheets include i.e. waste streams, current treatments of these waste streams, major agricultural practices, potential for the RUSTICA technologies, identification of competitive and or complementary technologies. In parallel, the nutrient value and other potential functional values in the agri-residues from the fruit and vegetable sector were assessed. Trends in European legislation and admission rules were identified, and in societal acceptance, in farming systems, production systems and human food patterns. The trend analysis will lead to:

- Strategic preferences for RBBFs containing limited, partly, or exclusively mineral nutrients
- Strategic preference for application methods of RBBFs
- The strategic importance of multifunctional or integral RBBF
- The strategic importance of crop specificity of the RBBF versus specificity of method of its application.

From here we are able to formulate long term market needs and to identify the key players in the bio-based fertiliser market. Interviewing international and/or regional key players will reveal the ambition of existing players to participate in the development of RUSTICA products. Conclusively we will arrive on product and partner preferences and prioritisation in time line of development.

### SHORT SUMMARY FOR PRACTITIONERS

NATIVE version

De voordelen en risico's van de RUSTICA-technologie-integratie voor het maken en toepassen van RUSTICA biogebaseerde meststoffen (RBBF's) zullen worden geëvalueerd tegen de achtergrond van de omstandigheden in de 5 RUSTICA-regio's: Vlaanderen, Pays de la Loire, Almeria, Friuli-Venezia Giulia en Valle del Cauca. Deze analyse geeft inzicht in de stand van zaken op het gebied van bijproductbeschikbaarheid en kunstmestgebruik. De regionale factsheets omvatten o.a. afvalstromen, huidige behandelingen van deze afvalstromen, belangrijke landbouwpraktijken, potentieel voor de RUSTICA-technologieën, identificatie van concurrerende en/of complementaire technologieën. Parallel hieraan zijn de voedingswaarde en andere potentiële functionele waarden in de agro-reststromen uit de AGF-sector beoordeeld. Trends in Europese wetgeving en toelatingsregels werden geïdentificeerd, en in maatschappelijke acceptatie, in landbouwsystemen, productiesystemen en menselijke voedingspatronen. De trendanalyse leidt tot:

- Strategische voorkeuren voor RBBF's met beperkte, gedeeltelijk of uitsluitend minerale nutriënten
- Strategische voorkeur voor toepassingswijzen van RBBF's
- Het strategisch belang van multifunctionele of integrale RBBF
- Het strategische belang van gewasspecificiteit van de RBBF versus specificiteit van de toepassingsmethode.

Van hieruit zijn we in staat om marktbehoeften op de lange termijn te formuleren en de belangrijkste spelers op de markt voor biokunstmest te identificeren. Het interviewen van internationale en/of regionale sleutelspelers zal de ambitie van bestaande spelers blootleggen om mee te werken aan de ontwikkeling van RUSTICA producten. Uiteindelijk zullen we komen tot product- en partnervoorkeuren en prioritering in de tijdlijn van ontwikkeling.



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#### CONTEXT

The business question: which blend one is going to make and for what region, is mainly determined by the customer demand from the region. There, the RBBF concept should ultimately be implemented from a regional consortium. A consortium that is then responsible for the entire life cycle: a volume wise and qualitatively correct collection of fruit and vegetable waste flows, conversion and processing of the waste flows into the required building blocks, blending & mixing, and sales, distribution and product advice, and this all set in an economically sound exploitation.

#### PROBLEM

What are the general drivers for RBBF's market entry and how do we make it regionally specific?.

#### APPROACH

A market analysis has been made with a look ahead to 2030 regarding the European market for mineral and organic fertilisers including the underlying drivers. Trends in European legislation and admission rules were identified, as well as trends in societal acceptance in farming systems, production systems and human food patterns. From the trend analysis we extract:

- Strategic preferences for bio-based fertilisers containing limited, partly or exclusively mineral nutrients
- Strategic preference for application methods
- The strategic importance of multifunctional bio-based fertiliser
- The strategic importance of crop specificity of the bio-based fertiliser versus specificity of method of application

#### OUTCOME

1. The European organic fertiliser market possesses a substantial scope for growth in the future, owing to an increased awareness towards the benefits of organic farming over conventional farming
2. Start strategy KPIs
  - Low volumes-high margins
  - Be good not Big
  - Multifunctionality of RBBF
  - Collector of waste flows should benefit, securing quality commitment
3. Ecological/organic horticulture is the most receptive market segment
4. In agriculture, the somewhat younger and middle-skilled entrepreneurs with medium-sized companies are generally the most receptive.

#### PRACTICAL RECOMMENDATIONS

- 100% circular; We should not jeopardise this uniqueness by mixing in materials other than RUSTICA building blocks plus compost produced under the auspices of RUSTICA partners
- Modular & Multifunctional; Serving niche markets is a unique selling point, enabled by the modular structure of RBBFs. The fact that RBBFs claim to support a build-up of the desired soil quality requires modularity and flexibility and a programming in application for a couple of years

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### CHARACTERISATION OF THE DRIVERS FOR THE FIVE RUSTICA REGIONS

| Region  | Almeria | Pays de la Loire | Flanders | Friuli-Venezia Giulia | Valle del Cauca |
|---|---------|------------------|----------|-----------------------|-----------------|
| Regional RBBF business drivers  |         |                  |          |                       |                 |
| Awareness of ecology in agriculture                                   | X       | X                | X        | X                     | X               |
| Environmental awareness   | X       | X                | X        | X                     |                 |
| The advance of the ecological/organic cultivation                     | X       | X                | X        |                       |                 |
| The need for more soil/substrate resilience                           | X       |                  |          | X                     | X               |
| The need for an increased water use efficiency                        | X       |                  |          |                       | X               |
| Urgency for recirculation of minerals/nutrients                       | X       | X                | X        |                       |                 |
| Reduction of soil organic matter contents                             |         |                  | X        | X                     |                 |
| Reduction high GHG emissions & soil CO <sub>2</sub> capture           |         | X                | X        |                       | X               |
| NO <sub>3</sub> <sup>-</sup> leaching from agriculture; water quality |         | X                | X        |                       | X               |
| Promotion of circular agriculture                                     |         | X                | X        |                       |                 |
| Reduction of erosion sensitivity                                      |         |                  |          | X                     | X               |
| Lower CO <sub>2</sub> footprint                                       |         |                  |          |                       | X               |
| Sum   | 6       | 7                | 8        | 5                     | 7               |

Demonstration of circular bio-based fertilisers and implementation of optimized fertiliser strategies and value chains in rural communities

RUSTICA



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N. 101000527

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## CHARACTERISATION OF THE FIVE RUSTICA REGIONS

| Region  | Almeria | Pays de la Loire | Flanders | Friuli-Venezia Giulia | Valle del Cauca |
|---|---------|------------------|----------|-----------------------|-----------------|
| Critical factors  |         |                  |          |                       |                 |
| Presence RUSTICA partners   | 3       | 1                | 5        | 1                     | 1               |
| Availability vegetable and fruit waste                                | +       | +                | +        | +/-                   | +               |
| Development target market Organic cultivation                         | +       | +                | +        | +/-                   | +/-             |
| Implementation RUSTICA technologies                                   | +       | +/-              | ++       | +/-                   | +               |
| Start-up markets  |         |                  |          |                       |                 |
| Ecological/organic farming  | X       | X                | X        |                       |                 |
| Conventional horticulture protected                                   | X       | X                | X        |                       |                 |
| Short food chains   |         |                  | X        |                       |                 |
| Annual open-field horticulture/viticulture                            | X       |                  | X        | X                     |                 |
| Breeding companies  |         | X                |          |                       |                 |
| Fair trade farmers  |         |                  |          |                       | X               |
| Small farmholders using fertilisers                                   |         |                  |          |                       | X               |
| Organised group of certified sugarcane growers                        |         |                  |          |                       | X               |
| Regional RBBF business drivers  |         |                  |          |                       |                 |
| Awareness of ecology in agriculture                                   |         | X                | X        | X                     | X               |
| Environmental awareness   | X       | X                | X        | X                     |                 |
| The advance of the ecological/organic cultivation                     | X       | X                | X        |                       |                 |
| The need for more soil/substrate resilience                           | X       |                  |          | X                     | X               |
| The need for an increased water use efficiency.                       | X       |                  |          |                       | X               |
| Urgency for recirculation of minerals/nutrients;                      | X       | X                | X        |                       |                 |
| Reduction of soil organic matter contents                             |         |                  | X        | X                     |                 |
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| Promotion of circular agriculture                                     |         | X                | X        |                       |                 |
| Reduction of erosion sensitivity                                      |         |                  |          | X                     | X               |
| Lower CO <sub>2</sub> footprint                                       |         |                  |          |                       | X               |

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