

VITALROOT®

PHYSIOLOGICAL ACTIVATOR OF ROOT GROWTH AND ACTIVITY
Contains GA142 natural extract with added P and K



B I O S T I M U L A N T

PROMOTES EARLY
DEVELOPMENT OF
ROOTS AND SHOOTS

- Enhances root growth by natural stimulation
- Increases tillering of wheat and barley plants
- Improves nutrient uptake and drought tolerance
- Ideal for use in winter and spring cereals

Learn more at
www.upl-ltd.com/uk



VITALROOT

VITALROOT is a biostimulant containing GA142, UPL's unique plant extract. With a wide crop label **VITALROOT**, promotes rooting and shooting in most arable crops, and tillering in cereals. **VITALROOT** can help to improve crop establishment, plant health and resilience against pest and disease challenges.

The formulation stimulates young plants to produce more phosphatases and reductase enzymes, which improves nutrient access and enhances the respiratory system, enabling increased water translocation and accelerated root growth.

VITALROOT is ideal for use on autumn planted cereals and grass where good establishment can make a big difference to overwintering and early spring development. It can also be used in spring sown crops where speed of root and shoot production is critical to yield potential and drought tolerance.

LABEL USE

VITALROOT can be easily applied in a low, 1l/ha dose rate as a foliar spray with most commonly used fungicides and insecticides. The product can also be applied with some approved herbicides.

Crop	Dose	Application Stage
Straw Cereals (Wheat, Barley, ...)	1 l/ha	2 leaves to beginning of tillering
Grass	1 l/ha	From emergence, every 10-14 days
Maize	1 l/ha	4 - 8 leaves
Oilseed Rape	1 l/ha	4 - 6 leaves
Beet	1-2 l/ha	2 - 6 leaves

THE GA142 ACTIVE



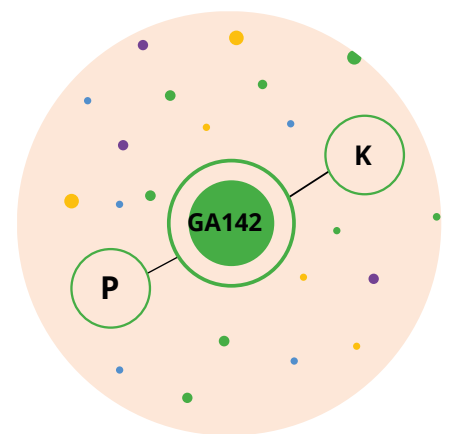
GA142 is a naturally sourced active ingredient.

Ascophyllum nodosum (brown seaweed) is hand harvested off the coast of Brittany, France and transported to UPL's factory for processing to begin within 24 hours to ensure the quality remains.



As a result of decades of research and development, the GA142 active is obtained from the seaweed through a unique cell bursting and filtration process.

This process preserves and concentrates the extract to ensure a high quality product that can be applied at low rates.

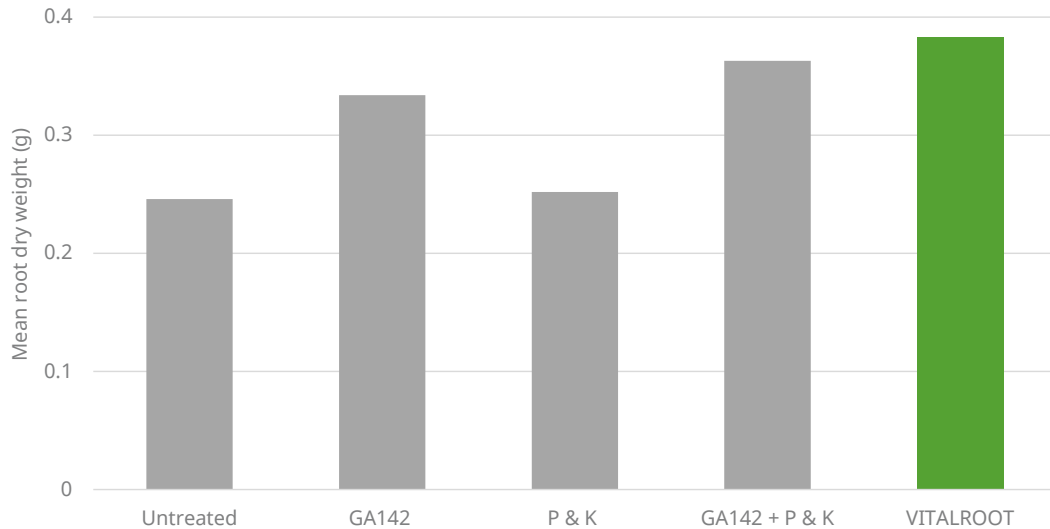


The GA142 active is combined with carefully selected micronutrients to produce **VITALROOT**.

This is designed to synergise with the promoted biological pathways in the crop.

FORMULATION

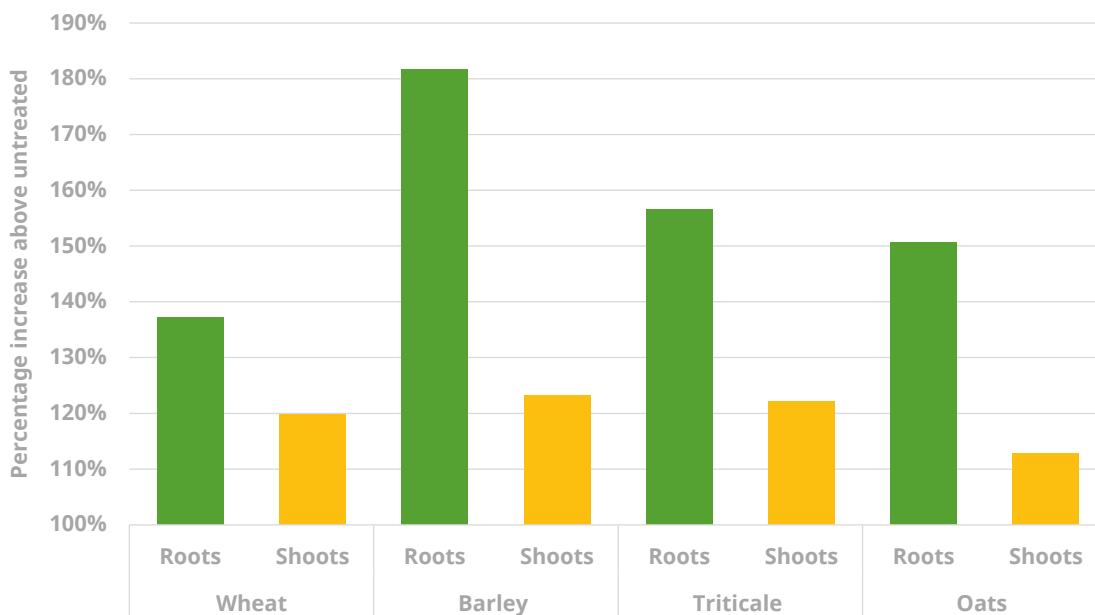
The concentrated formulation of **VITALROOT** combines and optimises the GA142 biostimulant with Phosphorus (13%) and Potassium (5%). As a single powerful dose, the formulation delivers a stronger boost to the plant than any of the individual ingredients applied alone or as separate products. This is demonstrated in the graph below which shows early root growth in ryegrass.



Source: University of Nottingham (2020)

ROOT AND SHOOT BIOMASS

VITALROOT has shown in independent trials to consistently improve root and shoot biomass outperforming phosphite based alternatives, particularly with regards to root development. **VITALROOT** also enables improved nutrient uptake and efficiency through the enhanced root system.



VITALROOT applied at 1l/ha

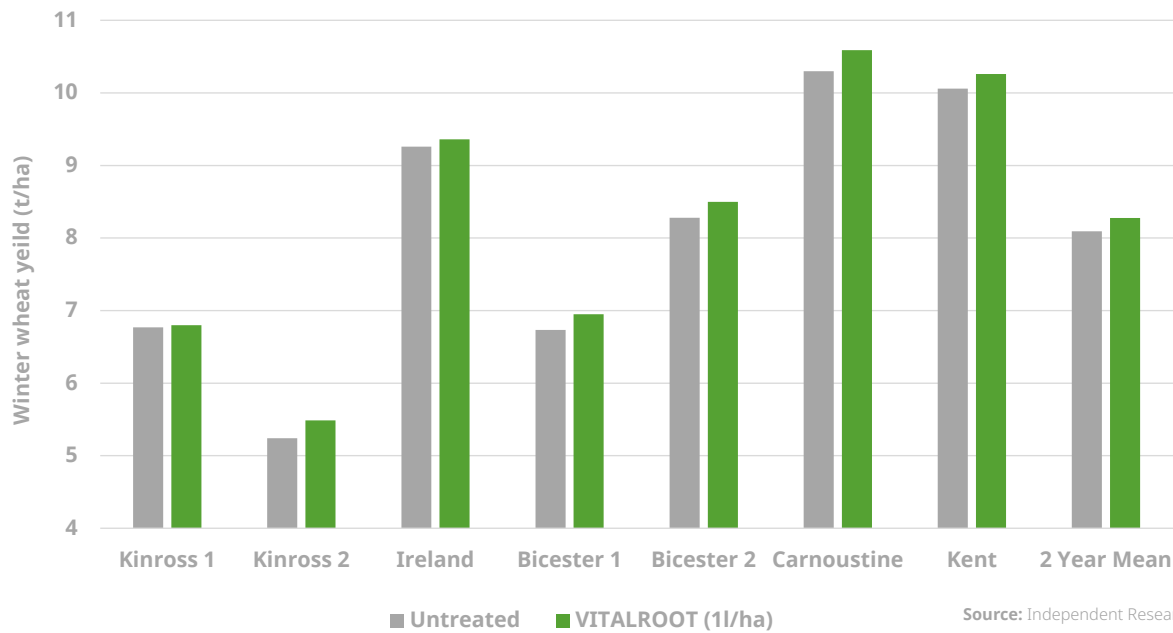
Source: Synthesis of studies at University of Nottingham (2017-2020)

TILLERING

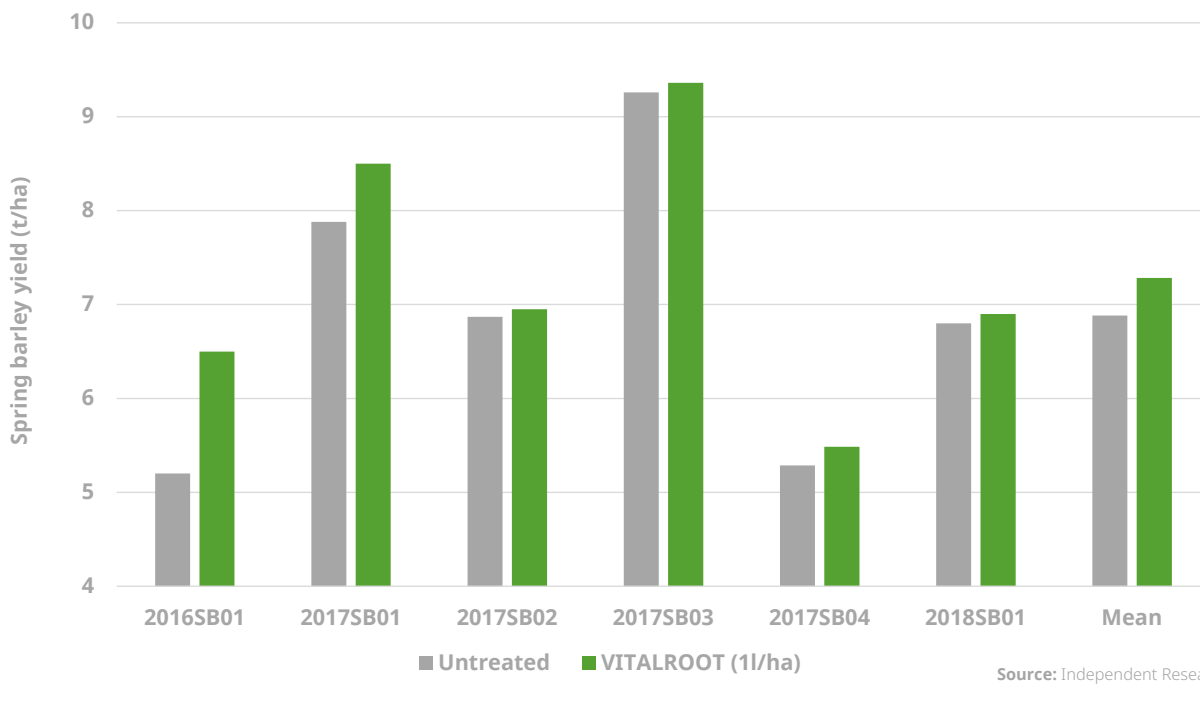
VITALROOT has a significant impact on tillering, improving tiller numbers by up to 30% in trials. This is due to the increased enzyme activity and water movement in the plant. In barley in particular, yield is directly relatable to tillers per plant, and this effect can help yield optimisation.

YIELD

Improved rooting provides an insurance policy against potential drought and can help a crop's ability to overcome stress. In seven replicated winter wheat trials in 2016 – 17, UPL recorded an average yield increase of 2.4% (0.19t/ha) with **VITALROOT** applied at 1l/ha before stem elongation.



When **VITALROOT** is applied in spring barley, the yield response is higher with an average boost of 7% (0.4t/ha) over six replicated trials between 2016 - 18.



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