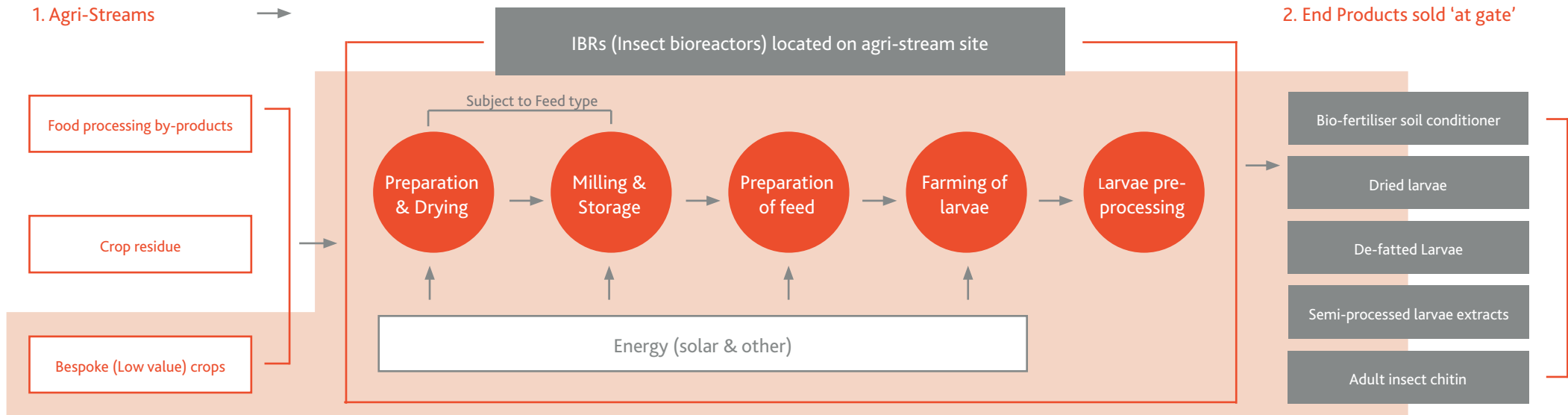


What is an insect bioreactor?

Large scale farming of insects is proven and uses the following processes:



Scale and Route to Market

Potential scale of insect production based upon the use of agri-food waste for the UK is difficult to determine. In principle with >9 mt of food waste available, at c. 20% conversion this gives an estimate of 1.8 million tonnes insect meal per annum. (or c. 1800 kt protein; 1200 kt fat). A single commercial insect farm has a potential (and further scaleable) annual output of 5600 tonnes of meal, 2.8 million litres of oil and 21 000 tonnes of soil conditioner.

- The potential scale of annual UK demand; aquaculture feed is c.70 kt protein (inclusion rate of 23%); c. 200 kt of dried meal for poultry feed (5% inclusion rate); > 100 kt for pig feed (5% inclusion rate).

- The potential scale for pet food in the UK can be estimated as 20 kt protein per annum (based on a conservative 5% of the current market size).
- Route to scalable market for insect protein for compound feed is via accredited feedmills able to test, confirm quality, build reputation and trust; direct to farm potential for large pig/poultry producers able to manufacture own feed.
- UK potential to build/establish 12 'plants' in the short term (3-5 years) and 24 in the medium term (5-10 years); capacity is dependent upon a consistent supply of rearing substrate at appropriate scale.