| Table S1. Ingredients of | the diet prepared for the various treatments |
|--------------------------|--|
|--------------------------|--|

| Ingredients | Percent | Nutrient type |
|--|---------|----------------|
| Soy flour | 15 | Macronutrients |
| Oat flour | 20 | |
| Fish meal | 12 | |
| Gluten | 8 | |
| Soy oil | 2 | Others |
| Fish oil | 2 | |
| Cornstarch | 30.19 | |
| Gelatin | 6 | |
| Rovimix [®] (vitamin and mineral mix) | 2 | Micronutrients |
| Stay C [®] | 0.07 | |
| Cholesterol | 0.5 | |
| DHA NATUR [®] al 24% | 1 | |
| Sodium benzoate | 0.23 | |
| BHT (butylated hydroxytoluene) | 0.01 | |
| Phospholipids | 1 | |
| TOTAL | 100 | |

Table S2. Abbreviations used for the different treatments. NE: no equivalent treatment

| Bioassay 1 treatments | Nomenclature | Bioassay 2 treatments | Nomenclature |
|---|-------------------|---|-------------------|
| WSSV-free Negative Control injected with dsRNA Intramuscular (-) | NO-WSSV-ds | WSSV-free Negative Control | NO-WSSV |
| Chitosan Negative Control | NO-WSSV-Q | NE | |
| WSSV-free organisms | | | |
| VLPs mixed in feed and fed simultaneously with WSSV infection | W-VMS-1 | VLPs mixed in feed and fed simultaneously with WSSV infection | W-VMS-2 |
| dsRNA intramuscular injection | W-dsRNA IM-1 | dsRNA intramuscular injection | W-dsRNA IM- 2 |
| VLP intramuscular injection | W-VIM-1 | VLP intramuscular injection | W-VIM-2 |
| VLPs incorporated into the food coat and delivered post-infection | W-VREC POST | VLP mixed in feed and supplied post-infection | W-VM POST |
| Chitosan nanoparticles delivered simultaneously to the infection | W-QS-1 | Chitosan nanoparticles delivered simultaneously to the infection | W-QS-2 |
| VLPs incorporated into the food coat and delivered Pre- infection | W-VREC-PRE | NE | |
| WSSV per os positive control | WSSV PER- OS-1 | WSSV per os positive control | WSSV PER- OS-2 |
| Naked dsRNA in the food attached to the coating. | W-ds-REC | Naked dsRNA mixed in the food | W-ds-MIX |
| VLPs incorporated into the food coat delivered simultaneously with infection. | W-VREC | Chitosan nanoparticles mixed in the feed delivered post-infection | W-QPOST |
| WSSV Intramuscular injection Positive Control | WSSV IM | NE | |



Fig. S1. Virus-like particles (VLPs) and nanoparticles of chitosan (NPQs) were first prepared and diluted in fish oil, after which they were incorporated into a dough mixture. This mixture was then extruded into several lines using a syringe. Each line was cut into sections and allowed to dry. Subsequently, gelatin was dissolved and sprayed onto the dried sections. The feed was then left to dry completely before being delivered to the shrimp for experimental bioassays

| Bioassay 1 | | | Bioassay 2 | | | |
|-------------|---------------------------|------------|--------------------------|------------|-------------|------------------------------|
| Treatment | Delivery Time | | Trank | | Treatment | Delivery Time |
| No WSSVds | Bioassay zero hour | | | | Nowssy | Bioassay zero |
| No WSSVQ | Bioassay zero hour | | | 1 | NO W33V | hour |
| WSSV IM | Bioassay zero hour | | Parameters | | WSSV Per Os | Bioassay zero hour |
| WSSV Per Os | Bioassay zero hour | 33 ppt | Salinity | 15 ppt | W-VMS | <6 hrs, >2 hrs |
| | | 28 ± 0.5°C | Temperature | 28 ± 0.5°C | | |
| W-VMS | <5 hrs, > 2hrs | > 5 mg/l | Oxygen | > 5 mg/l | W-QS | <6 hrs, >2 hrs |
| W-VREC | <5 hrs, >2hrs | > 5 mg/L | oxygen | s o mg/ E | W-VMS POST | > 24 brs > 39 br |
| W-QS | <6 hrs, >2 hrs | 5 g | Weight | 7 g | | · 24113, · 0311 |
| W-dsREC | <6 hrs, >2 hrs | 21 day | Bioassay duration | 30 day | W-dsMIX | <6 hrs, <12 hrs |
| W-VIM | Simultaneous to infection | бµд | VLPdsRNA dose | бµд | W-VIM | Simultaneous to infection |
| W-VREC POST | <24 hrs, <12 hrs | 3 µg | NPQdsRNA dose | 5 µg | W-Q POST | >24 hrs, >39 hrs |
| W-VREC PRE | >12 hrs, >24 hrs | n= 21 | Sample | n= 16 | W-dsRNA IM | Simultaneous to infection |
| dsRNA IM | Simultaneous to | | | | | |

Fig. S2. Details of the 2 bioassays conducted using the prepared feed: treatments included in each, culture conditions, physicochemical parameters, duration, and dosage employed