BÖLÜM 6

KÜLTÜR BALIKLARINDA İMMÜNOSTİMÜLAN KULLANIMI

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GİRİŞ

Su ürünleri üretim sektörü, özellikle balık yetiştiriciliği alanı, besin ihtiyacını karşılamak için dünya genelinde nüfus artışına paralel olarak gelişmektedir. Dünya nüfusunun 2050 yılına kadar yaklaşık 10 milyar olması beklenmektedir. Su ürünleri üretim sektörünün de büyümesini sürdüreceği ve kilit rol üstlenmeye devam edeceği öngörülmektedir (1). Küresel su ürünleri yetiştiriciliği son 40 yıldır istikrarlı bir şekilde artmaktadır ve 2022 yılında 94.415.401 ton ile avcılık ile elde edilen toplam miktarı (92.320.427 ton) geride bırakmıştır (2). TÜİK verilerine göre 2023 yılında Türkiye'de 553.862 ton su ürünleri yetiştiriciliği yapılmıştır (3). Veriler incelendiğinde su ürünleri yetiştiriciliğinin dünyayla paralel olarak ülkemizde de özellikle 2011 yılından sonra sürekli artan ve büyüyen bir sektör olarak karşımıza çıktığı görünmektedir. Sektörde stoklama ve yem üretimindeki teknolojik gelişmeler sayesinde yoğun yetiştiricilik sınırları zorlanmakta ve yoğun stoklama ile yetiştiricilik alanından en yüksek verim alınmaya çalışılmaktadır. Yüksek stok yoğunluğu, alternatif yem kaynaklarından yüksek yararlanım ve yetiştiricilik yapılan sucul ortamın kalitesinin korunması yetiştiricilik sistemlerinde yaygın hayvancılık uygulamaları haline gelmiştir (4). Bu durum yetiştiricilik açısından başarılı sonuçlar alınmasını sağlamış olsa da hastalık, stres kaynaklı sağlık riskleri ve ortam kalitesinin düşmesi gibi problemleri de beraberinde getirmiştir.

Stres etmenleri bağışıklık sistemini olumsuz önde etkilemekte ve canlıyı tehditlere karşı daha zayıf düşürmektedir. Hastalık kaynaklı ölümlerin balık yetiştiriciliğinde %50 gibi büyük bir oranda üretim kaybına sebep olduğu bildirilmiştir (5,

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şıklık sistemin zayıflamasına ve büyüme performansının düşmesine sebep olduğu, yem çevirim oranlarında gerilemeye sebep olduğu bildirilmiştir (89).

SONUÇ

Sürekli artış gösteren insan nüfusuna paralel olarak nitelikli besin ihtiyacına olan talep de artış göstermektedir. Bu gereksinimi önemli oranla karşılayan su ürünleri yetiştiricilik sektörünün hedefi büyümeye devam ederek mevcut alanlardaki üretimi miktarını arttırmak, daha sürdürebilir yemler kullanmak, hastalıklardan korunmak ve sağlıklı bireyler yetiştirmektir.

Su ürünleri kültüründe karasal yetiştiricilikten farklı olarak bir olumsuzluk durumunda canlılara müdahele kolay değildir, yoğun iş gücü ve operasyonel hareket gerektirir. Balıkların aynı su ortamında etkileşiminden dolayı bir hastalık belirtisi ortaya çıktığında kuluçka süresince bulaş çoğunlukla gerçekleşmiş ve hastalık yayılmıştır. Bu durum kitlesel balık kayıplarıyla gıda arzını etkilemekte ve işletmeler için ağır ekonomik kayıplar anlamına gelmektedir.

Bu durumlardan dolayı immünostimülanlar bir destek olarak araştırmacı ve yetiştiricilerin ilgisini çekmiştir. Bağışıklık sisteminin uyarılması ve desteklenmesi ile canlı kayıplarında azalma, hastalık direnci ve yem alımında iyileşme gibi ürün kaybına engel olacak gelişmeler immünostimülan grubunda yer alan farklı kimyasal ya da mikrobiyolojik ajanlarla sağlanmıştır (9, 48, 49).

İmmünostimülanlar günümüz yoğun yetiştiricilik koşullarında önemli birer destek olarak görünmekte olup, yetiştiricilik hedeflerinin artış planlanması doğrultusunda zamanla daha önemli hale geleceği düşünülmektedir. Yine çalışmalar göstermiştir ki bir patojenin ya da canlı sağlığını olumsuz etkileyen herhangi bir koşulun olumsuz etkilerini sadece immünostimülanlarla ortadan kaldırmak mümkün değildir. Ayrıca, immünostimülan etki gösteren moleküllerin ya da bileşiklerin tür ve yaşam evresi ile dozlarının da değişim gösterdiği unutulmamalıdır. Ancak üretimde artış ve sürdürülebilirlik açısından özellikle yoğun yetiştiricilik koşullarında alternatif değil, diyet formüllerinin bir parçası olarak düşünülmesi üretimin lehine görünmektedir.

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