

國立臺灣大學技術行銷表

臺大案號: 97 農 731

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產品/技術名稱	養殖池自動清淤機
發明人/單位	朱元南/生機系
產品/技術說明	養殖池累積淤泥是使水質惡化的重要原因，淤泥一經擾動就會散出劇毒的硫化氫，過去一直缺乏安全有效的清除方法。本自動化清淤機利用白努利原理，以噴水產生吸力，可以快速安全的清除淤泥，已獲得中華民國發明專利，德國紐倫堡發明展銀牌獎，申請大陸發明專利中，對養殖產業有很大的應用價值。
應用範圍	<ol style="list-style-type: none"> 1. 室外養殖池塘清除淤泥 2. 集約式工廠化養殖水槽的淤泥清除 3. 園藝造景池淤泥的清除和維護 4. 水處理系統沈澱池淤泥的清除
產品/技術優勢	<ol style="list-style-type: none"> 1. 室外養殖池，一分地一台清淤機，每天運轉 15 分鐘即可除去淤泥，維持水質良好 2. 耗電量每個月僅約 7 度電，清淤效率約是傳統以一個人力清淤的 30 倍 3. 沒有淤泥釋出硫化氫的危險 4. 本清淤機的結構簡單，易於維護 5. 目前市面上尚無相關產品或競爭對手
市場潛力	清淤機未來可能成為水產養殖產業的重要設施，像水車一樣，成為養殖業的基本配備，具有雄厚的市場潛力。養殖產業可以藉清除淤泥穩定水質，可以減少養殖風險，提高養殖成功率，從而提高單位面積的養殖密度和產量。
產品/技術 智財權保護方式	中華民國發明專利 I 331012

圖片

(已公開之成果
可提供圖片)



清淤機現場實景



清淤機的發明人朱元南教授由於此項成果於 2010 獲頒全國優秀
農業人員獎，由農委會陳主委頒獎

Marketing Abstract of NTU's Invention Disclosure

NTU's docket no: 97 農 731

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Title	Automatic aquaculture pond sediment removing system
Inventor (s)	Yuan-Nan Chu
Brief Description	<p>Aquaculture pond sediment is harmful to the fish and is difficult to remove. This innovative sediment removing system can remove the aquaculture pond sediment quickly and safely. It uses water jets to move the sediment to the draining outlet through a patented structure. The structure creates suction flows due to Bernoulli's effect, preventing the sediment to release harmful hydrogen sulfide and ammonia into the surrounding water during transportation. The system has been awarded an invention patent and a silver medal from the Nuremburg invention exhibition. A patent application is pending in the mainland China. The system is the first practical equipment to remove sediment in large open ponds and has high potential for application in the aquaculture industry.</p>
Fields of Application	<ol style="list-style-type: none"> 1. Sediment removal for aquaculture ponds 2. Sediment removal for indoor fish rearing tanks 3. Sediment removal for open ornamental ponds 4. Sediment removal for sedimentation tanks of water treatment systems
Advantages	<ol style="list-style-type: none"> 1. The system could remove the sediment of a 1000 m² pond in 15 minutes. 2. The energy use in a month is only 7 degrees. The speed of sediment removal is about 30 times higher than human labor. 3. There is little risk of hydrogen sulfide exposure to the pond water using this system. 4. The patented system structure is simple and very easy to maintain. 5. There is no competitor on the market at this time.
Market Potential	<p>The sediment removing system, like the propeller wheel aerator in 40 years ago, has widespread application potential for the aquaculture industry. The aquaculture production could benefit from better water quality and lower risk by removing the sediment from the pond water as soon as possible. The production density and quantity could both be increased.</p>
IP Right(s)	Patent No. I 331012 (R. O. C.)

Picture



The sediment removing system



The inventor, professor Chu, is honored by Dr. Chen, the chairman of the Agriculture Council of Taiwan, in an open ceremony mainly due to this technology breakthrough.